THE DREAM PROBLEM
AND THE MECHANISM OF THOUGHT

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THE DREAM PROBLEM

BOOKS I and II

THE DREAM PROBLEM

AND THE MECHANISM OF THOUGHT

Viewed from the Biological Standpoint

BY

LYDIARD H. HORTON, Ph.D.

IN THREE BOOKS

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THE DREAM PROBLEM

Contents of First Volume

BOOK I

Introduction to the Dream Problem

BOOK II

The Dream Problem Presented
in Fair Samples

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BOOK III

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PREFACE

These volumes set forth certain findings on the dream problem that were developed mainly from 1909 to 1922 and repeatedly tested in research work at psycho-clinical institutions. These same conceptions withstood the further test of work with normal subjects and with private patients referred to me by physicians.

While making prolonged mentality studies of individuals, through extensive records of their dreams, I had numerous opportunities to compare the views of psychiatrists and psychoanalysts about the mechanism of dreaming with the teachings of psychologists in academic life. Graduate school seminars and psychopathic hospital staff-meetings yielded rich data for such comparisons. The immediate objective was to attain a formulation that would prove acceptable in either field. This first goal was reached in 1922, when the data were finally embodied in a doctor's dissertation and supported by much collateral material; in this form the investigation as a whole ran the gauntlet of criticism by representative specialists in educational, physiological and medical psychology.

For publication, the too bulky material has been replaced by abstracts and by the oral summaries that were brought out extempore during my defense of the thesis. On that occasion, an opening was made for asserting those positive conclusions about the importance of *apperceptive error* which are stated at the end of Chapter 3. That Epilogue may be regarded as a general summary, if considered with due reference to all the diagrams, which lead up to it, and with the due context furnished by the telegraphic running heads, which tell the story of the other pages.

The Trial and Error Theory of Dreams, which it is the object of this work to present, would be incomplete if the foundations on which it rests were not somewhat pointedly indicated. For this reason, it is essential to state that the plan to obtain academic recognition for an investigation of sleep and dreams was matured long before any one university was thought of as suitable to foster it. In 1909, a careful survey of the trend of psychological work in America

suggested that the Department of Psychology at Columbia afforded a setting second to none as a seat of disciplines of research calculated to correct the sort of vagaries that had proved detrimental to true progress in the science of dreams. For the realization of this fact, I owed much to a course on Genetic Psychology given by Thorndike in 1900, while the researches of Cattell and Woodworth confirmed and enhanced the impression.

On my return to the University in 1910, and in all later years, Columbia constantly enriched my opportunities to meet severe but illuminating standards of scientific criticism that were peculiarly applicable to this investigation, which proceeded along the borderline between the several Departments of Psychology, of Neurology and of Physiology.

The studies of Hollingworth on Imagery and of Poffenberger on Synaptic Delay give added context to this expression of appreciation, while the fact that Woodworth has instituted a new "Dynamic Psychology" rounds out my allusions to those fundamental concepts that underlie the structure of the Trial and Error Theory of Dreams.

LYDIARD H. HORTON.

The Schoolhouse
Rocky Neck
East Gloucester

THE DREAM PROBLEM

Book I

Introduction to The Dream Problem

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Book I

Chapter 1

THE DREAM PROBLEM

The Three Fundamental Procedures of Analysis

INTRODUCTION TO THE DREAM PROBLEM

Showing the Three Fundamental Procedures in General, pp. 1-8; §I Inventorial Analysis, pp. 9-15; §II Dream Elucidation Record, pp. 16-26; §III Dream Apperception Record, pp. 27-34—Summary of Guesses, pp. 35-39; §IV Dream Interpretation Record, pp. 39-43—Validity of Guesses, p. 43-47.

THE so-called Psycho-analytic Movement of recent years has been distinguished from other similar movements by the emphasis placed upon the use of dreams as material for the investigation of the individual personality. But the prevailing methods of dream interpretation, actually those of Freud, seem to have incurred the same reproach that has been directed at the psycho-analytic methods as a whole, namely, that they do not satisfy the demand for logical clearness and for objective demonstration.

Of such interpretations, the criticism has been made that (in the words of F. L. Wells) "upon the basis of observational data, probably the most intimate ever focussed upon psychological questions, are constructed many theories of mental function, scarcely one of which has been assimilated to the psychology of scientific method." [1]

Accordingly, as these words express the prevailing opinion among psychologists, one cannot regard Freud's theories and those of his disciples, as saying the final word in the new-old science of Onirocritics.[2] And the student of psychology, as Morton Prince has amply pointed out, must beware of those generalizations about dreams; seeing that they have been constructed on too conjectural a foundation.[3]

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[1] *On Formulation in Psychoanalysis,* Journal of Abnormal Psychology, p. 217, Oct.-Nov. 1913.

[2] This word is spelled *Oneirocritics* in the English Dictionary of Murray. The French, however, accept the spelling *Oniro,* etc. The Century Dictionary allows *Oniric* as a variant of *Oneiric.* We follow the simpler spelling.

[3] See numerous articles on dreams (including present writer's) published in Journal of Abnormal Psychology — Doctor Morton Prince, Editor, Boston.

STANDARDIZED METHODS ARE NEEDED FOR DREAM INVESTIGATION

Influenced largely by the questionings of skeptical fellow-workers in Abnormal Psychology, and sustained by a belief in the essential soundness of Prince's criticisms of the Freudian theory, the present writer has been led to examine *ab initio* the whole question of the dream. Beginning in 1909, an effort was made to apply methods of investigation that would be acceptable to the trained psychologist; while, at the same time, not excluding those features of human interest which have made the new interpretation of dreams a thing apart from all other studies in mental association. The outcome has been a more or less precise formulation of the natural steps in the task of dream analysis and interpretation; and, finally, the reduction of these to a few stereotyped procedures, each possessed of a distinctive experimental character.

The Inventorial Procedures

The first of these procedures is one of simple analysis, carried on by the Dreamer himself without influence from the Experimenter, except such as may be implied by the use of printed record forms and the issuance of uniform directions to the subjects.

In going beyond this simple first procedure, it is necessary (increasingly as we go on) to distinguish clearly the respective functions of the Dreamer as Subject, of the analyst as Experimenter, and, especially, the latter's other function as Interpreter, that of a constructive thinker. It is the confusion of these two functions of the Experimenter, both in theory and in practice, that introduces the danger of artifact.

In the first procedure under this method, the Interpreter, who is also the Experimenter, must not let his "will to interpret" play any part in influencing the course of the dreamer's associations.

In the second procedure, which may be described as a sort of cross-examination of the Dreamer by the Experimenter, there is of necessity a certain amount of inter-play between the mental contents of these two. They must work together in producing what is called the Dream Elucidation Record.

SPECIAL DEVICES ARE PROVIDED TO STUDY MEANINGS

Herein, the extent to which the Dreamer's responses are influenced by the Experimenter, can be carefully controlled and kept within such limits as to insure freedom from artifact. Specifically, leading questions are avoided, and an effort is made to find, without bias, what it is that lurks in the Dreamer's mind touching each item of the dream in turn.

In the course of this second procedure, (for convenience divided like the first into four steps), it is the Experimenter's business to secure from the dreamer an elucidation of the data furnished in the first procedure. Obviously, this elaboration must take the form of greater detail and accuracy in the tracing of lines of association already started, and in the effort to start others where the Dreamer's original reactions have proven doubtful or negative; as, for a simple example, by the failure to respond with any associations at all to a given item.

The end of this second procedure comes when the Dreamer has furnished all the light that he can or will, concerning the meaning (*to him*) of the several dream items and their associations. *By meaning*, in such connection, we should understand the relation of the dream item to more or less striking and significant conscious thoughts or past experiences, such as any subject almost always supplies, even in the simplest association experiment. Needless to say, the record should be kept so as to permit a clear reviewing of the experiment.

As to the third procedure, it dispenses entirely with the Dreamer as reactor, and consists in giving play to the "apperceptions" of the Interpreter. These are associative processes carried on under conditions similar to the well-known "controlled association" experiment; using the data gathered in the first two procedures as stimulus material, and looking toward constructive guesses. The object of these guesses is to reconstruct, in accordance with methods logically sound, the whole train of thought underlying the dream, whether conscious or subconscious. This procedure, like the others, is capable of clear record and of critical review, being likewise divided into four steps. It is known as the Dream Apperception Record.

In sum, the first procedure elicits from the Dreamer all that he can reasonably be expected to give without specific prompting; the second procedure gives the Dreamer an open-

PRECAUTIONS MUST BE TAKEN AGAINST WILL TO INTERPRET

ing to elaborate upon his former mental reactions, under the tutelage of the Experimenter. As to the third, it gives the Experimenter an opportunity to record systematically what the foregoing analysis of the dream has suggested to his imagination, regarding its meaning.*

This last feature, which is neglected in the Freudian practice has the advantage of compelling the Experimenter to bear witness to his own subjective reactions, i. e., conjectures. Thus, before reaching the point of committing himself to an interpretation, the would-be "seer" may be made to face a situation in which he is himself analyzed.

*INTRINSIC ANALYSIS

One might distinguish two problems in the analysis of the dreamer's associations; *intrinsic analysis,* where one is concerned with the impressions forming the dream itself, and *extrinsic analysis,* in which one attempts to trace the dream elements back into a connection of ideas.

The subject matter of the former scarcely needs description; one calls to mind the sort of literary or rhetorical analysis that has played such a prominent part in the higher criticism of the Bible, and in the Baconian controversy. As is well known, it has its profitable side and its unprofitable side, according to the part played by the "will to interpret."

Intrinsic analysis paves the way for the study of ulterior associations of ideas; it should take into account the telling of the dream, the corrections, interpolations, afterthoughts and lapses of all kinds, and, in addition, the elocutionary reactions of the dreamer in connection with each of these.

EXTRINSIC ANALYSIS

For a classic example of what I have called *extrinsic analysis,* we may turn to the writings of Thomas Hobbes. This is found in his discussion of the "train of unregulated thoughts, . . . in which case the thoughts are said to wander, and seem impertinent to one another, as in a dream." . . . "And yet in this wild ranging of the mind, a man may oft-times perceive the way of it, and the dependence of one thought upon another. For in a discourse of our present civil war what could seem more impertinent than to ask, as one did, what was the value of a Roman penny? Yet the coherence to me was manifest enough. For the thought of the war introduced the thought of delivering the king to his enemies; the thought of that brought in the thought of the delivering up of Christ; and that again the thought of the thirty pence, which was the price of that treason; and thence easily followed that malicious question; and all this in a moment of time; for thought is quick." (*Leviathan, Chapter III.*)

The problem of extrinsic analysis, then, as here illustrated, is to make manifest the coherence of ideas, to discover as far as possible the orig-

DREAM ANALYSIS RECORD

A. NARRATIVE PAGE

General Directions for all pages:—Write on printed side only. Fill out "pages" in alphabetical order of their distinctive *letters*. Use page A for dream narrative; page B for the inventory, and so on. If any sheet is too small to hold its intended contents, use an additional page of the same *letter*—inserting consecutive number in space provided after the page-letter.

This is page A.....(Insert numeral if needed) *Date of dream*.....*Present date*.....

PRELIMINARY RECORD OF DREAM

Before proceeding with a connected narrative of the dream it is well to jot down the salient points while fresh in mind. These jottings are landmarks which aid in retracing the details or by-ways of the dream.

"MY DREAM WAS ABOUT": (Put down your jottings and then the straight story; extra details in right hand column.)

SUPPLEMENTARY DETAILS OF DREAM

After telling the dream in concise fashion in the left-hand column, it is advisable to supplement as far as possible this gross narrative with more circumstantial details. Use this column for all such extra material.

"I MIGHT ADD THE FOLLOWING": (Put here what would otherwise break the continuity of the dream story at left.)

FIG. 1. The narrative page is divided into two columns because it is found that a second column is needed for interpolating supplementary material which comes to mind after the recital in the first column

DREAM ANALYSIS RECORD

B. INVENTORY PAGE

Directions — Make a list below of all the scenery, characters, "stage properties," situations or other features of the dream that you can separately itemize. Have this list complete by going over the dream as recorded on page A, and picking the whole performance to pieces from a mechanical standpoint: that is, as if it were a show on the stage, where you would expect most of the things to have been put together artificially or at least to be *not what they would seem to be.*

This is page B (Insert numeral if needed) *Date of dream* ..... *Present date* .....

Items of Scenery, Structural Arrangement, Stage Setting and Weather in Dream	**Stage Properties and Make-up: Including Hair, Fur, Plumage, Clothing and Objects of all Kinds**	**List of Situations, Tableaux, Scenes and Transformations in the Dream-play**
101. Place (if any)	*301.*	*401.*
List of Characters in Dream: including Animals, animated Objects and Effigies		**Attitudes of Characters: including Poses, Postures and Emotional Tone**
201. Dreamer (if present)		*501.*
☞ Any conspicuous feature of any character's make-up should be listed with Stage Properties, &c. (Class 300)	**Use lower half of above column for Special Mention and items of uncertain classification**	*Note: The dreamer's own attitudes or feelings should be listed here and be treated like those of any other character*

FIG. 2. The use of the inventory has elements of analogy to the taking apart of a mosaic pattern. Cf. tangram, p. 122

OBJECTIVE RECORDS SAFEGUARD AGAINST SUBJECTIVE BIAS

Although this method of dream analysis, as outlined, may seem merely to imitate closely the Freudian technique, it is proper to state that all the steps became stereotyped as a direct outcome of original trials and errors. These set "pages" represent the crystallization of ways and means for handling the data of dreams, and embody working formulas arrived at by a method that was strictly one of adaptation to the circumstances, as encountered in actual dealings with the offerings of subjects.

In laying out the first set of blanks at least two hundred dreams were used, and many preliminary forms of printed record were employed. At no time in the course of the experiments were the Freudian "symbols" relied upon as "keys" and thus made to take the place of independent investigation.

A principal object held in view, has been to "discount" the personal bias of the Interpreter; that is, to face it frankly as typified by the Dream Apperception Record. And it is the inclusion in the analysis, of this third procedure that has made it possible to envisage the interpretation of dreams *objectively*—instead of treating the work *subjectively,* as if it were a kind of intuitive skill.

Following upon this deliberate investigation into the way in which the Experimenter becomes the Interpreter and reads

inal train of imaginations of which the given example is the outcome. The study of free associations and of recent impressions must be counted as means to that end, notwithstanding the fact, pointed out by critics, that the presence of an idea in a list of such associations does not prove that it had anything to do with the genesis of the example. Indeed, three hundred years after Hobbes, we may find it difficult to admit the coherency of ideas as he states it, however plausible it may have seemed to him; proof is impossible, the critics will say. Yet the principle remains. And with more knowledge of the period of Hobbes, and of the mental disposition of the questioner, in the case quoted, might we not find ourselves sufficiently equipped to recognize the aptness of his analysis of the sequence of ideas.

The point is, of course, that each case must stand on its own evidence, and that this evidence is to be sought largely in the context. In the work here to be considered, the procedures typified by the Free Association page and the Recent Impressions page have alike been utilized as means of tracing and recalling to the dreamer's mind such contexts or "settings-of-ideas" as would be unmistakably genetic in their import.

meaning into dreams, there have appeared results calculated to qualify and even to upset the Freudian generalizations, as will hereafter appear. Therefore it seems worth while to call attention to the possibility of increasing the validity of dream interpretation by prolonging and elaborating upon the analysis, especially when applied also to the Interpreter's own mental reactions: these should be objectively examined, as any other "association experiment" might be, and not blindly validated as those of "an authority." For the meaning of a dream "symbol" as a sign cannot be determined once for all.

The Question of Authenticity

When endeavoring to make *objective methods* paramount in the investigation of a dream, one meets at the start limitations arising out of the very nature of the phantasm. Necessarily, the evidence for the phenomenon is purely circumstantial; for only the individual dreamer can have direct knowledge of his dream. By definition it is all subjective, from beginning to end; or, in the words of Thomas Hobbes: "The imaginations of them that sleep are those we call dreams." And the question that plays around this subject is, of course, always one of the dreamer's accuracy in reporting the dream, the whole dream, and nothing but the dream.

Setting aside the question of intentional deceit, there remains the problem of false remembrance. This difficulty, however, probably looms larger to the disputants who have not studied dreams intensively at first hand, than to those workers who have been engrossed in collecting the actual examples. In the course of analyzing minutely hundreds of dreams, the writer has found relatively few instances where the Dreamer failed to give a reasonably clear and positive account of his phantasy. Sometimes even, a mere hesitating guess on the Dreamer's part as to the details of a dream scene, may prove on later anamnesis to have been accurate beyond question, as proving itself to fit in with the rest of the dream.

Yet, at times, it may take a good deal of careful management on the part of the investigator to bring the memory of the dream into clearness. It fades like the web of the ground

spider that is silvery with the dew at dawn, but dims into an invisible transparency with the brightening of day. Nevertheless, once the thread of connection is picked up, the gossamer structure of dream-imagery will be found fairly intact in the telling. There is, often, too, a certain positiveness or spontaneity which accrues during recital and serves to proclaim the veracity of the recollection. Further, a certain confusion in the telling may in the end add to, rather than detract from, the self-consistency and authenticity of the narrative. For instance, I have found a number of cases in which confusions of the Dreamer's memory might have been recorded, except that further study proved them to be more adequately interpreted as *memories of confusion:* thus referring the confusion to the state of mind of the Dreamer in the dream, instead of to the recollection of his "imagination in sleep."*

*EX POSTFACTO "DREAMING"

In contrast to these dreams wherein the element of confusion or indefiniteness proves to have been integrally part of the phantasy, there should be cited a somewhat more rare and perplexing type of supposedly *veridical* dream. In the course of making my first census of about two hundred dreams, only a half-dozen of such dreams came to hand. These were given in general conversation, with a request for explanation. None such ever appeared in the course of my pre-arranged experiment in dream-collecting — so far as my own work is concerned. The dreams in question were related approximately as follows:—

"A few days ago, I met so-and-so at such-and-such a place. I had never been there before, nor was there any way to account for my seeming to know the place; until it flashed over me that I had dreamed the whole scene, oh! perhaps two or three weeks ago. How do you explain that?"

The only explanation that I have been able to offer is that these "dreams" are not so at all, but are fabrications or illusions which the subject dates back days or weeks according to the fancy of the moment. This fancy is fundamentally an unexplained sense of familiarity which is erroneously applied to the given situation; this, in turn, being misjudged as having been duplicated in some past experience. The "dream" is thus a sort of transitory delusion of explanation. So far as they go, my analyses of such cases tend to show that they belong under the well-known head of "illusions of familiarity."

This so-called "déjà vu" phenomenon, in dreams and in waking existence, takes many forms, some of them easy to understand, and others so involved that the underlying fact

CONVINCING STUDY OF DREAMS RESTS UPON PAINSTAKING PROTOCOLS

Considering now what, with due reservations, may be called the indubitable dreams, it may be said that the selection of them is made by a process of elimination. That is, if there appears no good reason to the contrary, one treats as genuine the text of the supposed dream. Subsequent work is likely to reveal its character in any case. The good faith of the subject is the primary basis for accepting a dream as such.

The Evidences of Dreaming

The text is then further studied by internal evidence and by cross-examination of the dreamer, until the examiner is satisfied. If proceeding with due care not to interject the experimenter's personal equation, material soon comes to hand that carries conviction or the reverse. How much conviction, depends no less on *the method of recording* what one has elicited than on the skill in obtaining the data. For the evidence, to be properly used, must, as already said, be subject to review and to the tests of logical criticism.

Necessity of Concrete Examples

The problem of analysis, as distinguished from interpretation, is to so arrange the experimental processes that they shall furnish definite objective clues, permitting the question for interpretation to be formulated very much as in the study of geometry or as in the guessing of charades. How thus, by prolonging analysis, to lay a foundation for interpretation, cannot be shown as well by precept as by example. For the proper study of dreams is to take one dream after another and investigate it thoroughly.

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is not recognized as an illusion by the subject. Some persons, when overtaken by this feeling, will suppose that they have actually been in that situation before, until the fancy passes and no more is thought of it. But a few, as presumed in my cases, will suppose that there has been a previous dream; or, as I have found in psychopathic subjects, they may incorporate the illusion into all sorts of delusions of metempsychosis, telepathy, and other occult beliefs. This was also found true in cases of persons not psychopathic, *i.e.*, who apparently maintained normal and unstressful relations to their social environment.

DREAM ANALYSIS RECORD

C. FREE ASSOCIATION PAGE

Directions — After making out a detailed list of all the separate or separable items in your dream, as required and explained on page B (Inventory page), proceed then as follows: Give your attention singly to one item after another of the inventory. With reference to each item in turn ask yourself what it makes you think of. Record the result, whatever it may be. Perhaps you will be reminded of the like you have seen before in real life. In any event, whatever comes to mind in connection with this procedure is of interest, and is wanted for the purpose of explaining your dream.

This is page C.....(Insert numeral if needed) *Date of Dream*.....*Present Date*.....

NAME OF ITEM Refer briefly to the topic	WRITE BELOW YOUR SEVERAL ASSOCIATIONS OPPOSITE THE CORRESPONDING ITEMS When you have written a few words or sentences about any single item draw a line across the page and take up the next item. Leave right margin blank.

FIG. 3. The vertical columns of this page are typical of the arrangement and uses of most of the other pages, E, F, G, etc., which are embodied in the text and not shown in miniature reproduction

DREAM ANALYSIS RECORD

D. RECENT IMPRESSIONS PAGE

Directions — Having contributed on Page C your more or less random thoughts about each listed item of the dream, you now pick up associations in a more deliberate manner as explained in the headings and marginal notes. Review carefully the 24-hour period *first* preceding dream; earlier periods as called for.

This is page D____ (Number as needed.) *Date of dream* ..... *Present date* .....

Enter here briefly, as if making memos. in a diary, a record of impressions obtained during the 24-hour period. Count as such conversations, letters, plays, books, music

DIARY MEMORANDA covering 24-hour period ENDING .....

CONNECTING LINKS BETWEEN REAL LIFE AND THE DREAM

If the foregoing diary has helped to recall any recent impression or event that seems similar or related to the dream, you should make note of such in left hand column—then mention corresponding features of dream, using right hand column. Record likewise any impressions old or new of which, for any reason, you are forcibly reminded while filling out blanks below. *Underscore such as are not recent.*

Record at once the more certain and striking of observed similarities. At your leisure fill in such others as may occur to you

Old impressions recently revived count as recent impressions.

Impressions or Events in Real Life	Similar or Related Features of Dream

Be sure to treat as recent impressions whatever stimuli (external or internal) may have influenced your condition during sleep.

Stimulus Acting During Dream or Sleep	Corresponding Reaction in Dream, if Any

FIG. 4. This is the page that exhibits most clearly the "deadly parallels" which safeguard dream readings from the go-as-you-please habit of many interpreters

INVENTORIAL ITEMS ARE RETAINED THROUGHOUT INVESTIGATION

The term "Inventorial Analysis of Dreams" applies to the second and third procedures almost as well as to the first; but section II is given a running head "Dream Elucidation Record"; and section III is given a heading "Dream Apperception Record." These headings serve to emphasize the distinction between procedures I, II and III.

I. DREAMER'S INVENTORIAL ANALYSIS

This procedure establishes the narrative of the dreamer under conditions as objectively direct as possible, i.e. unbiased by the subjective attitudes of the Experimenter. Hence, if the Experimenter participates in the procedure at all, he acts in a clerical capacity, abstaining from suggestions that would trespass on the free rendering of the Dreamer's memory. The four steps of the procedure, namely: A, the narrative page; B, inventory page; C, association page and D, recent impressions page, are so arranged that, after very little practice, a dreamer can fill out the blanks himself. This can readily be understood from the accompanying miniatures.

The inventory establishes a distinctive mode of investigation inasmuch as it lays a foundation for all further work and permits the handling of all the pieces of evidence in a manner more consonant with scientific spirit and with the conceptions of legal proof than if there were no basis of inventorial items determined from the start. Thus, the inventorial procedures as a whole, when carried through all their several steps, supply for dream investigation the desirable feature of cross-examination of the data in contrast with the direct examination of the narrative. It is well known that this double approach is highly serviceable in bringing out the truth and that, in courts of law, it is a means of validating the evidence and very often of redirecting the tendency of that evidence from what it was when first obtained by direct examination.

As explained in the Journal of Abnormal Psychology for March 1914, the making of the inventory is based on experimental tests made with Alice in Wonderland as a norm. Thus

was developed the concept of the dream item as a governing unit. It is the duty of the Experimenter to see that the items are formed and assigned to their proper category in the inventory, according to the standardized classification. In carrying this out, we took for our model the definite principles of the Railroad Classification of Accounts under the rules of the Interstate Commerce Commission. It is such care to assign to each item its definite standing that confers the scientific character upon our mode of investigation, and makes a peculiar contribution to the methodology. I understand psychoanalysts do not need to use this technique; two reasons are apparent: first, they do not feel obliged to exhaust the resources of any single dream; and second, they do not aim to reach the standard of laboratory demonstrations.

In contrast, our inventorial technique has been applied to carrying out rigid experiments in which a dream selected at random was made a test of interpretative skill, with particular reference to the conclusiveness of "retrospective prophesies," in Huxley's sense. ("Method of Zadig.")

The illustration now submitted is a case in point. It was taken up, as it were, on a wager. That is, the interested members of the laboratory staff were told that this test would be applied to the first dream that offered itself, provided it came from a suitable subject, that is, from one who would be available for confidential observation by some member of the department.

As it happened, this random selection brought to hand a dream that not only fulfilled the conditions, but also was found to have developed out of a situation involving the musical, educational and scientific life familiar to my fellow-workers on Morningside Heights. It is the dream of a musician who is also a well-known psychological writer and critic. His personality affords a guarantee of the controversial acceptability of the example, since the analysis was carried out under his eye, and subjected to discussion on the occasions of his visits to the laboratory.

FIRST RECORDS PROCEED UNDER DREAMER'S OWN CONTROL

I. ANALYSIS RECORD BY DREAMER

The Dream of the Stomachic Bouquet

A. NARRATIVE PAGE.

My dream was about Rogers being there. (Mr. Rogers is, like the dreamer, a musician and psychologist.) *I was somewhere with a piano discussing music. Seems as if the dream began in the middle of a conversation.*

He said, "You sit down and give a characterization; characterize the geranium." And he held out a good-sized bouquet,—not geraniums—of fuzzy little flowers.

I sat at the piano and began improvizing a characterization. It was hard, but I struck some good music. Played lightly in higher octaves, attempting to be like flowers. I let myself go with music, saying that characterization was not so important; the music was the thing. I went into forte and lower octaves.

I do not remember what Rogers thought of it. Believe I woke up.

Supplementary Details: *I think that Rogers started playing the piano, and I wished he would stop; thought he was not making much of it.*

If I remember correctly, I had perhaps an idea I was vexed at his "spieling."

Rogers was in the room (at left, as I remember). He wore flowers as a corsage bouquet. He wore it on the stomach. It was ten inches high and perhaps six inches broad. His face I do not remember; his head otherwise as usual.

The room was small and unpretentious; not any home that I know. Piano was on west side of room.

The bouquet was a mixed *one.*

The scene did not change much. The early part of the dream fades and piano becomes rather prominent. It is merely as if I had become engrossed in piano-playing.

Thus, there are three divisions:

1. *Rogers playing.*
2. *He gives me an opening to do something with some little music; and*
3. *I attempt to characterize the flowers; but give it up after a little.*

Having now recorded *seriatim* the data that properly belonged on page A, Narrative page, it is convenient for the next step, to place in apposition the contents of the two succeeding pages, namely B and C—as hereafter shown.

B. INVENTORY PAGE.	*C. FREE ASSOCIATION PAGE*
Class 100. *Scenery, &c.*	*(Reactions are to items as a whole.)*
101. Room, small and unpretentious.	*Not any home that I know.*
102. Piano on west side of room.	*The place where I lectured yesterday had a piano in it; it was a grand; no other similarity in appearance of scene.*
Class 200. *Characters.*	
201. The Dreamer.	*(Reaction omitted.)*
202. Rogers, as usual.	*I attended a psychological meeting with Rogers present last night.*
Class 300. *Stage Properties, &c.*	
301. Piano.	*The piano was not my home piano.*
302. Bouquet worn by R.: (a) Its size, 10″x6″. (b) Its position, over stomach. (c) Its composition mixed.	*The word* geranium *may have called up a group of flowers.*
303. Flowers, fuzzy.	*They were fuzzy flowers, perhaps a little like everlastings. But I can't quite say that was it. Probably a common cultivated flower that grows with geraniums. I would recognize them if I saw them.*

FIG. 5. Professor D. listens to Dr. Rogers, but thinks he is not making much of it

FIG. 6. Dr. Rogers gives Professor D. a chance to engage in the rather pretentious task of characterizing an alleged geranium

N. B. A study of seed catalogues discloses the probability that a play on the name of a flower called adgeratum figured in the dreamer's thought-linkages

FIG. 7. Professor D. is mentally cursing while Dr. Rogers talks

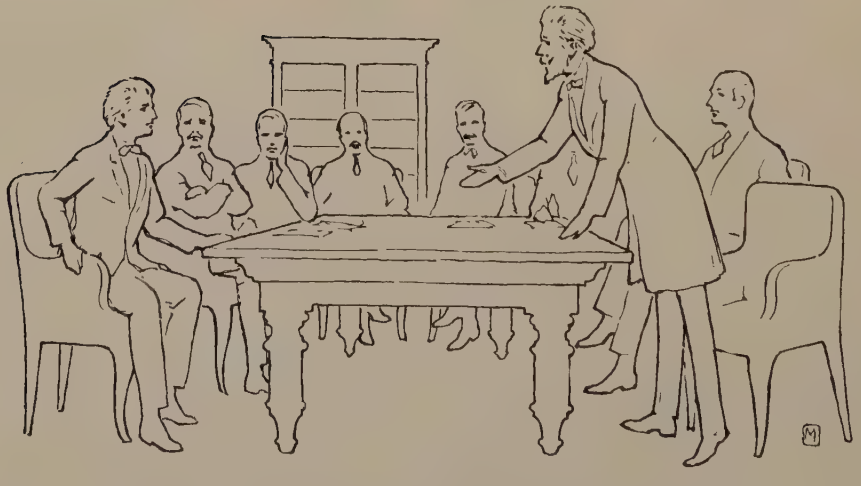


FIG 8. Professor D. is given a chance to unload his mind

FIRST ASSOCIATION TEST IS OF SO-CALLED "FREE" TYPE

Class 400. *Situations, &c.*	*Associations Continued*
401. Dreamer listening — Rogers playing at piano.	*At the psychological meeting, I was mentally cursing while Rogers was talking; thought he was taking up too much time.*
402. Conversation with Rogers, who (a) Suggests musical characterization. (b) Holds out flowers. (c) Misdescribes them. (d) Surrenders seat to Dreamer.	*Rogers gave me a similar opportunity at the meeting, by introducing me into the discussion. He said, "Let Professor D——tell us what he thinks about it."* (For special reaction to 402 c., see 701.)
403. Dreamer attempts characterization at piano.	
(a) Plays lightly in higher octaves, attempting to be like flowers.	*I was at one time impressed by the fact that Schumann did things like characterization and have tried it, but without much success.*
(b) Forsakes theme; becoming absorbed in other music. (c) Wanders into lower octaves, playing forte.	*I am rather fond of improvising.*
Class 500. *Attitudes, &c.*	
501. Slight vexation at Rogers' "spieling."	*It is like my attitude in the psychological discussion.*
502. Disinterest in task imposed.	*I would be more interested anyway in the purely musical side.*
503. Preference for free improvisation.	*In my lecture yesterday I did not get through with the esthetic side. I treated the sensory basis and began on esthetics, but had to stop in the middle.*

At this point in the experiment it becomes obvious to Professor D—— that the dream represented in part a protest against the lack of opportunity to finish his lecture-subject.

PECULIAR OR UNUSUAL ITEMS DESERVE ESPECIAL ATTENTION

*SPECIAL MENTION CLASSES**

601. The numbers 6 and 10.	(No significance attached to them by dreamer.)
701. The word *geranium* as misapplied by Rogers.	*At the meeting, Rogers had referred to a theme of Tschaikowsky and I thought he had made a mistake. I tried to figure out whether he was right or wrong. I knew he was wrong on one point, but could not quite make out or recall the exact theme, although I had the movement in mind as he spoke.* I would have known it if I had heard it.
801. Lines spoken by R.	*Are parallel with his remark at meeting, introducing me.*
901. Amnesia for name of flowers.	I would recognize them if I saw them.

*Occasionally, features of items belonging to the first five classes require special mention. To accommodate such, and likewise exceptional items that do not fit into the five principal classes, there are provided four additional groups as follows:

Class 600. Special references to sensory qualities, number, form, weight, texture, etc., of the item.

Class 700. Special references to names, labels, signs, etc.—as emphasized in the dream.

Class 800. Special references to spoken lines, speeches, recitations, dialogues, and dramatic performances in dream. Also musical airs and pictures.

Class 900. Special references to peculiar states of consciousness and memory (paramnesia) in the dream; including feelings of unreality, levitation, of familiarity (déjà vu), of prescience, power of materialization, of going to sleep in the dream, and of dreams within dreams.

VALID PROCEDURES INVOLVE FULL STUDY OF RECENT IMPRESSIONS

D. RECENT IMPRESSIONS PAGE.

Diary Memoranda:

"I attended a psychological meeting, with Rogers present, last night."—(Cf. Association with Item 202.)

"Earlier, I gave a lecture on the psychology of music, in which I treated the sensory basis of music, but did not get through with the esthetic side."—(Cf. Association with Item 503.)

Connecting Links Between Real Life and the Dream

IMPRESSIONS OF REAL LIFE	RELATED IMPRESSIONS IN DREAM
At the psychological meeting, I was listening to Rogers talking on psychology, and on music.	*In my dream I was listening to him playing the piano and discussing music.*
In the discussion I was mentally cursing; I had something I wanted to say on the topic.	*I thought Rogers was not making much of the music and was vexed at his "spieling."*
Rogers gives me a polite introduction into the discussion, suggesting a contribution from me on the psychological topic.	*He holds out a bouquet and suggests that I improvise a characterization, giving me his place at the piano.*
At the meeting Rogers had made what I regarded as a mistake in the Tschaikowsky theme.	*In handing me some common everlastings he miscalls them* geraniums.
I speak after Rogers.	*I perform after him at the piano.*
My lecture was in two parts.	*My playing was in two parts.*
I abandon first part in favor of second.	*I abandon first part in favor of second.*
My pleasure is in the second part.	*My pleasure is in the second part.*
In my lecture I did not get through.	*In my dream I do as I like, disregarding the first task.*

With this we come to the end of the first procedure.

SECOND PROCEDURE EXPLORES CROSS-BEARINGS OF DREAM ITEMS

II. THE DREAM ELUCIDATION RECORD

The second fundamental procedure enables the Dreamer and the Experimenter to develop a clearer perspective regarding the items under question. Errors of judgment that might still rest upon the deceptive results of the first procedure secure elimination. Literally, we get two different angles on the item in question, very much as the astronomer does when measuring the distance of a star from the ends of the earth's orbit as baseline. Thus we obtain the necessary parallax.

Only about a quarter of the dreams we have handled can be said to yield their meaning definitely enough to dispense with the contexts and "parallax" obtained in this second procedure; and this occurs usually only when it happens that the Experimenter already knows those contexts and treats them as *sous-entendu.*

The next procedure, in this particular case, was greatly simplified from the fact that I was informed as to the general circumstances of Prof. D.'s work, and that I had been present at the psychological meeting where the discussion of the Tschaïkowsky theme had taken place. I can therefore present, all the more clearly, the data that belong to the several pages, to wit:—

E. THE CONTEXT PAGE.
(Here the Experimenter learns that nearly every item is part and parcel of a concrete experiential record in the dreamer's memory.)

F. THE RAMIFICATION PAGE—for remote contexts.
(Here the Experimenter discovers that items which stand apart from each other in the dream are apt to have a common derivation.)

G. THE BEHAVIOR PAGE.
(Here the Experimenter obtains significant reactions to isolated items showing motivation, "drives" and up-to-the-minute attitudes, even touching uncompleted responses to past situations.)

H. THE SIGNALMENT PAGE.
(Here the Experimenter summarizes under the head of each item its essential features or thought-linkages; thereby leading to the identification of the cue to which the item was a response.)

EXPERIENTIAL CONTEXTS OFTEN YIELD UNMISTAKABLE SIGNS OF MEANING

The characteristic way of using each page will now be indicated by quotations from Prof. D.'s answers, where made, and by my own words, where no information from him was needed.

E. CONTEXT PAGE

This page is designed for more or less elaborate records of the settings-of-ideas. (Prince.) These must be authenticated by referring to concrete habits, attitudes or experiences of the dreamer's life. Such settings-of-ideas are not easy to illustrate apart from the actual séance in the laboratory; the facts as I shall state them do not carry their full weight when so far removed from their context. This circumstance, of itself, testifies to the importance of finding a true context to each item, as a preliminary for a searching interpretation.

The contextual "material" follows:

RELATION TO PAST AND TO PRESENT REACTIONS

Item

101.

Room too vague to have special context.

102.

Location of piano implies no more than "a place where music is discoursed."

201.

Dreamer is, as stated, a musician-psychologist. He is still resenting the lack of proportion characterizing his last lecture on music. For he is ordinarily very careful to maintain the balance of his subject. He is a man who avoids ambitious phraseology, eschewing showiness in all lines; the very opposite of a pedant. He is self-effacing and laborious, to a fault. He cares but little for social success and not at all for the politics of his profession.

202.

Rogers is more readily urbane in demeanor, enjoys and seeks convivial situations, is adept at the graces and ornaments of language, and, in a small meeting, inclines more to the drawing-room than to the lecture-room manner. He is now taking life somewhat easily, after occupying a position of eminence in his profession; at one time as a senior officer in the organization in which Professor D—— was a junior officer.

SETTINGS OF IDEAS OFTEN REVEAL DEEP-SEATED TRAITS OF DREAMER

301.

"I don't think pianos have figured in any striking way in my experiences; I think of this last lecture on music, of my work and playing in general."

302.

Dreamer takes no especial interest in his flower-garden. He is more devoted to vegetables. No interest in bouquets.

303.

Dreamer can add nothing to the description of the flowers; nor can he, on prompting, remember their name. *"If it was vegetable, I could tell you the name."* (This reaction is quite suggestive of the unpretentious tastes of Professor D——.)

401.

Dreamer has done a good deal of sitting back and letting others "spiel." Promotion has been slow in the Conservatory; yet, Professor D—— has attained distinction as a composer of works of recognized merit.
Officially, however, he has been disinclined to push himself forward.

402.

Rogers has been more conspicuous in the official world of the profession. It was under him, when Director of the Inter-state organization, that Professor D——served his apprenticeship, as of necessity, in a minor position. (The wider contexts now begin to appear.)

403.

To Professor D——, it was perhaps not entirely agreeable to play second fiddle. Professor D—— was hardly attracted to the burdens of "political" office in his professional organization.
Rogers had, of course, been somewhat the taskmaster in relation to Professor D——. A desire for independence from the latter was a natural outcome; this attitude is reflected both in the dream and in the contexts revealed by the present analysis.

501.

The slight vexation at "Rogers spieling" has now obvious connotations in real life, as a "reflex" from their previous official relations; a mildly invidious reaction.

HABITS AND ASPIRATIONS LEAVE THEIR IMPRESS UPON TRIFLING ITEMS

502.

Professor D——'s lack of interest, in the dream, regarding the characterization of the bouquet, bears, in view of the contexts, a strong likeness to his renunciation of similarly ambitious tasks in real life. (See ramification into more remote context of professional ambition, next "page.")
Note preference for music *per se.*

503.

"Program music" and more or less "slavish" tasks do not appeal to Professor D——; he leans characteristically, in all his professional work, toward untramelled development of well-grounded conceptions of his own. At the same time, his intimates know how he has labored in working out the "programs" of others, adapting his plans to theirs. Rogers case typical! Signs of growing independence were noticeable at this time. He had served out his apprenticeship and was in a position to assert his own claims to recognition. The dream-attitude was then *solidaire* with attitudes in real life.

601.

The dreamer disclaims any especial interest in or associations with the numbers 6 and 10; it seems they were simply chosen to indicate size of bouquet, as covering a portion of abdomen.

701.

The error attributed to Rogers in connection with the word Geranium is an obvious reflection of the dreamer's "perseverating" thoughts about his own former errors and about the recent errors of Rogers, both of the day before and both relating to discourses on music. It suggests most plainly a further inquiry into "Rogers," as a character in the dreamer's mind—to see how far the fancied rôle of Rogers corresponds to the dreamer's opinion, in real life, about Rogers.
The attitude of Professor D—— is then found to be politely deprecatory. Further inquiry is reserved for the proper place (page F.), as it would be difficult to avoid leading questions in going on.

801.

The obvious wish-fulfillment in the shape of Rogers introducing Professor D——has obvious contexts in the unsatisfied tendencies of the day before. But the stirring up of this feature of the persevering effect of incomplete trains of thought arouses in Professor D—— a remark to the effect that Rogers had offered him (Professor D——) a further "job" in the

organization in question. This had been refused, Professor D—— not caring especially to undertake the responsibility of this further service under Dr. Rogers. The examiner is thus led to look beyond immediate context and is more intrigued than ever concerning the official relationship of Rogers and the dreamer in real life.

901.

Amnesia for flowers is not explained.

F. RAMIFICATION PAGE

*This page is intended for the record of associative responses answering to a more free inquiry of the experimenter: virtually a cross-examination bearing upon the responses already given to the dream-items as naïve associations. Here we explore the possible interconnections of ideas, without that strict guarding against suggestion which should so far have been the rule.**

Often, at this stage, a unifying nexus is found, such as to permit a rapid advance toward the solution of the dream as a puzzle. For instance, bringing to bear now such information as I possess about the conduct of Professor D—— and of Dr. Rogers at the meeting where I sat with them, I go over possible clues in my mind. I now recollect that Dr. Rogers was rather "flowery" in his speech, a fact which stands out all the more clearly by the contrast with Professor D——'s severer standard of diction. On this basis, I hazarded the following piece of prompting:

Experimenter: *(Referring to Item 302, characteristic (b), the position of bouquet over stomach):* Do you remember that when

* In this, the experimenter is inevitably guided by his experience; and the most common experience is that associations given in response to the inventoried items of the dream do themselves inter-connect and that they have interlocking relations of which the Dreamer is at this stage usually unaware. To play on a word of Wundt's: ideas are not only *agglutinated* into especially close relations, but, as found in dream analysis, they are agglutinated in criss-cross fashion, or, so to say, *conglutinated.* The discovery of the scheme of dependence of one idea upon another is undertaken at this stage—the initiative of the Experimenter playing a larger part than hitherto allowed.

THE ONIRIC NEXUS

It should be understood that the finding of a network of associations, with a large proportion of mutually relevant constellations of ideas, must inevitably apprise the examiner that his exploration is succeeding in reaching the proper realm of memory. He rightly comes to feel that he is in possession of the proper finger-post to the sources of the dream.

SENSE OF UNITY AMONG ITEMS LEADS TO FOCUS OF MEANINGS

Rogers favored us with an account of a musical dream that he had had, he took the opportunity to touch upon the probable cause of dreams? Do you recall his saying that he had always understood that the cause of most dreams was "stomachic"?

Professor D—— *(Showing by the change of his features and by his manner that he had acquired a sudden insight, or mental clarification):* I knew he used *some* learned word; but I could not make out whether he said *stomachic* or *somatic.*"

Of course, somatic would be a routine technical term in dream psychology, whereas "*stomachic*" would be a little like "fine language" —euphuistic, not to say euphemistic. Both qualities of this hitherto unrevealed source of inspiration show themselves in the dream, as subtle reflections in the characterization of the bouquet. How far the use of this clue can carry us will be noted later. Meantime, the reader may exercise his ingenuity in applying this datum, essaying how far its ramifications throughout the dream may confer unity upon various items and associations that would, apart from this datum, seem perhaps quite unrelated.

Now, as to the "ramification" of other items, there appeared good reason to avoid pressing the matter of the official positions held by Professor D—— and their connection with the high office of Dr. Rogers. The experimenter did not pursue the work of the "page" beyond this point, believing discretion the better part of valor. The reasons for thus refraining are best presented in connection with the next "page," which takes into consideration the "behavior" of the subject, under cross-examination as well as in free-association.†

†During the investigation of a dream, the impression it has left in the nervous organization *(neurograms)* of the dreamer may come to exhibit its potentialities by kinetic manifestations; its ulterior reality, as a system of nerve-traces *(dream-neurogram)* may be exhibited by such conduct (or behavior-signals) as blushing, crying, sweating, trembling, stuttering, suppression of speech, pallor, and the whole gamut of changes in muscular tonus affecting posture and bearing.

Moreover, the overt muscular signs frequently force themselves upon the attention of the seeker after experience in dream study; as when the subject walks about, gesticulates, threatens or strikes the experimenter, or indulges in a hysterical fit or exhibits hysterical contracture or paralysis of some muscle or group of muscles.

All of which, when dispassionately viewed by the experimenter, tends to fortify his respect for the dream-neurogram as a genuine canalization of the nervous system, prepared by the dreaming process, and serving thereafter (or until corrected) as a channel-system for the escapement of nervous energy in specific and significant ways. (Continued pp. 22-23.)

EVEN A STOMACHIC DREAM MAY DEEPLY STIR BEHAVIOR OF CONSCIOUSNESS

G. BEHAVIOR PAGE

This page is provided to take the record of those manifestations in speech and conduct which may properly be used to throw light upon the dream. This amounts essentially to noting the manner of uttering the associative responses as given on other pages. But the experimenter will have occasion, if he pursues his studies far enough into the varieties of human nature, to correlate all sorts of behavior, other than the mere spoken word, with the deeper meaning of the dream.

The facial expression distinctive of "insight" (hereinbefore noted as having shown itself on Professor D——'s physiognomy), is as important a behavior-sign or finger-post as any that could be mentioned. It usually marks the resolution of a perplexity, of a mental conflict or of a system of dissociated ideas.

Such phenomena are worthy of a chapter to themselves, in which a consideration of the recovery of insight by the insane would furnish a fascinating portion. The illuminating prototype of such a discussion already stands before us in the shape of Morton Prince's study of the re-uniting of the Beauchamp personalities.

The *conjunction of ideas* brought about by dream analysis often rises close to the line of being a re-uniting of dissevered mental systems. Its simplest form is the recall of a forgotten train of ideas that still causes perplexity; precisely of this type is the perseverating doubt of Professor D—— regarding the alternative between "*stomachic*" and "somatic."

Returning to the experiment, I may record how I tried to interest Professor D—— in *elaborating on the item* (501) concerning his "slight vexation at Rogers' 'spieling' ": I asked if he saw any analogies with this dream attitude, aside from the psychological meeting, where it had admittedly existed.

Was Professor D—— at odds with Dr. Rogers on any matter? No, Professor D—— said, he was not at odds with him; but perhaps there was more of an analogy in ulterior circumstances than had first appeared. For while Dr. Rogers had proved to be an efficient officer in his Directorship, he (Professor D——) for his own part had not cared to accept further office under him. Thus did Professor D—— repeat what has already been briefly set down on Page E. (Item 801), giving no strikingly new inter-connections of ideas that would justify a special record of "ramifications" on Page F, as I had hoped would be possible.

The above data, then, are repeated here only to lend emphasis to the fact (so typical in dream analysis) that the subject's answers were of a hesitating and unsatisfactorily "newsy" character: they stood out more as behavior, namely, reticence and inhibited thought-expressions, than as imparting of ideas in articu-

UNDERLYING STIMULUS OR IDEA IS SIGNALIZED BY PECULIARITIES IN DREAM ITEMS

Having, then, taken note of the behavior of Professor D——, I proceeded with the work of the next page; for which, as it happened, his assistance was not required. The result I will now present in somewhat abridged form:

H. SIGNALMENT PAGE

As the name would imply, the record on this page bears some analogy to the Bertillon system of identification; indeed, it is supposed to assist a similar process of detection, except that it is not a criminal but some idea running at large in a dreamer's head that one seeks to apprehend by means of the clues obtained from the foregoing investigation.

The Signalment page embodies in a single *tableau* a "fair statement" of the characteristics, attributes, or properties that can be objectively ascribed to the several items, regardless of alleged meaning.

These properties I call *oniric predicates.*

This part of the record is not the place for jumping at conclusions; although it is proper to add to the signalment of any item any data, in the nature of suspicion or authentic information, that the experimenter may be able to supply from his personal knowledge or investigation.

For clearness, however, such data will be omitted in the main from the Signalment page, as given for the principal and foremost object of phantasy, namely, the Bouquet.

late fashion. In view of this situation, I could only infer that I would be "a fool rushing in where angels fear to tread" if I pursued the matter farther. I took warning from *behavior;* the words contained no definite suggestion of what lay in the back of Professor D——'s mind.

Thinking it best not to trespass upon the reserve of the subject in this dream experiment, I resolved to go on with the work of analysis as best I could with the use of the clues already set down. This is a frequent necessity in such work, in which often the dream analysis has to be postponed indefinitely owing to the inability of the subject to face the incidental self-revelation.

In this there is nothing novel, nothing to wonder at: we all know that certain topics that recur to us in the privacy of thought, as well as in dreams, are likely to be fraught with pain, and that we do our best to avoid their becoming prominent through conversation. The surprising feature is simply that when first telling the dream the subject is not able to see the connection of its innocent items with topics that he might wish to avoid. The deciphering of the very informal code that (picturesquely speaking) the dream is necessarily brings experiments of this kind to the breaking-off point; because it raises the issue of an invasion of privacy.

PLAYS UPON WORDS ARE NOT TO BE DESPISED AS CLUES

SIGNALMENT OF ITEMS AS DERIVED FROM PREVIOUS PAGES AND SPECIAL SOURCES

ITEMS IN QUESTION	*ONIRIC PREDICATES, ETC.*
THE BOUQUET:	It is a corsage bouquet. (Page A.) *H-1*
Item 302, (a)	Its size, i. e., area, and its *H-2*
(b)	..position both suggest the region of the abdomen popularly called and commonly confused with the "stomach." (Page A.) *H-3*
(c)	Its composition, described as "mixed," (p. A) is a source of perplexity, as shown in dream narrative and in the associations (pp. A and C) *H-4*
	Special information. The experimenter, using own knowledge, finds one of the sources of doubt about bouquet in Dreamer's mind to be a *malentendu* of word *"stomachic,"* uttered by Rogers in real life, under circumstances similar to those pictured in dream phantasy. This uncovers a suspense of thought as to an alternative: *"somatic"* versus *"stomachic."* *H-5*
Item 701	
ERROR IN WORD "GERANIUM"	This is distinctly constellated with the Dreamer's ideas of errors on Rogers' part, both as a character in the dream and as a person holding forth in real life. (Cf. the error in Tschaikowsky theme—p. C.) *H-6*
FUZZY FLOWERS	
Item 303	These flowers are "common," and one of their "oniric predicates" is the quality of being "a little like everlastings." *H-7* *H-8*
Item 901	The Dreamer forgets their name —in a manner strikingly like the amnesia for Tschaikowsky theme. (p. C.) *H-9*

SIGNIFICANT ATTITUDES TOWARD ITEMS ARE IMPORTANT IN SIGNALMENT

THE BOUQUET IN GENERAL	GENERAL ASSOCIATIVE RELATIONS
Item 202	It is proffered by a person toward whom the Dreamer was mildly critical and for whom, as a taskmaster in the dream, he has evidently "no use" (pp. A, B, C, D, as submitted.) *H-10*
Item 402 and *Item* 403	The conditions of presentation of the bouquet justify the characterization that it is a distasteful task-object, as a topic of musical discourse. *H-11*
Item 403 and *Item* 502	In turning away from the task of characterizing the bouquet, the Dreamer is rejecting something offered by Rogers, preferring something simpler and less pretentious, and more distinctly related to his own near-at-heart interest. *H-12*
Item 503	In much the same attitude, Professor D—— had, the day before, turned from the sensory to the esthetic side of his lecture on music. (Parallel on page D.) *H13*
Item 501	Associations of a critical kind with the discourse of Rogers and impatience at his holding the chair, emphasize the Dreamer's attitude of "running-down" the ways of his rival at the piano. (Interpretative note: Is not Rogers, in one aspect, the representative of the Dreamer dwelling too long on the sensory side of music?) *H-14*

THE ONIROLOGIST RECONSTITUTES MENTAL EVENTS FROM FRAGMENTS

Item 501 and *Item* 401	Dreamer's vexation and impatience come from desire to succeed Rogers—at the piano. *H-15*
Item 402 (b)	Literally, Rogers *holds out a bouquet* to the Dreamer. *H-16*
(c) Also 801, 403, 502 and others	Dreamer is gratified to take Rogers' place; but prefers to use his opportunity in his own way. *H-17*
Items 801, 501	A certain element of mild invidiousness is suggested by Items 501 and 801; and it is a question how far it applied to real life. *H-18*

Further steps. Granted the requisite time and patience, it would be desirable to complete the Signalment (or objective summary of associations) for each and every item in turn; just as has been done for the single object "Bouquet."

Even if not written down, a more or less formal signalment must be borne in mind if anything is to be "made out of" the dream; that is, if the scattered pieces of memory that appear in the dream are to be reconstituted into anything meaningful. For that "dislocation" which Emerson called the "foremost trait" of dreams, and which produces their apparent nonsense, is capable of being reduced to sense, by cunningly devising a new synthesis of the dream-items.

This new arrangement usually achieves its purpose by the putting in of connecting links here and there that show the relation of the dream to the dreamer's actual life processes and purposes.

On this point, Emerson gives us this illuminating, albeit elliptical formula: "The Ego partial makes the dream; the Ego total the interpretation."

In dream analysis, many pieces necessary to make the "Ego total" will be found missing, and not altogether satisfactorily obtainable through the Dream Elucidation procedure. The filling in of lacunae must then become a matter of inference, possibly of guess-work. In recognition of this fact, the third procedure of analysis, the Dream Apperception Record, has been devised.

MEANING IS A FORM OF RELATION BETWEEN ITEMS OF EXPERIENCE

Function of Inventory in Discovery of "Meaning"

This particular dream shows very definitely the value of the inventory. If we had not taken advantage of inventorial itemization, it would have been difficult to comprehend the peculiarities of the Bouquet, as the central feature from which the dream takes its name. Only by considering the Bouquet item by item, from the several angles of the "pages," could we have come to realize that it was a fanciful conglomerate of broken trains of thought attached to an abstract task-object in real life, but concreted in the dream as a fortuitous parody of something "on the mind" of the dreamer. In fact, the formation of the Bouquet as a product of creative fancy, reveals the essential character of dreaming as a process of recall under the influence of cues.

The Bouquet, as a compound of responses to several cues, perfectly indicates the essential features of imagery in dreams. We can trace not only the individual cues to which the portions of the Bouquet are responses, as items of recall, but we can also see how the separate tendencies to recall influenced each other and blended their effects. As it stands in the dream, then, the Bouquet is a *resultant*, acknowledging influences derived from various trains of thought. In this sense the Bouquet "stands for" something else that has been on the dreamer's mind. At least, it bears the stamp of specific directional stimuli. That is, however, not "symbolism." Rather is it the vague mimicry of an allegory made up on the spur of the moment. This phenomenon has impromptu, opportunistic features that are not in character with the comparative fixity pertaining to a symbol. To speak of "symbolism" here would only obscure the process of cerebration whereby fortuitous compounds of imagery are made prominent in the dream consciousness. As our research compels us to view it, such a resultant is mechanistically determined by a process of discharging nerve-loads, thus completing or "resolving" unfinished responses held up in the brain-circuits. The presentation of a stimulus or cue during sleep serves to sweep these vestiges into a more or less artificial unity. This often results in a form of super-recall, or constructive imagination, which is useful in creating a re-arrangement of the dreamer's memories and satisfying various associative tendencies. "Meaning" is ascertained by studying this process in reverse. In any case, meaning is not inherent in any item, but depends upon the co-relation with the dreamer's individual experience. (Cf. Morton Prince on Meaning in "The Unconscious.")

SCIENTIFIC GUESSING IS LEGITIMATE IF CONTROLLED

III. THE DREAM APPERCEPTION RECORD

The third fundamental procedure is an exploitation of the hints and clues that the Experimenter may be supposed to have obtained from the foregoing procedures. This record is intended to guide him in bringing into clear consciousness all the deductions that he may have more or less unconsciously elaborated in his mind; hence the procedure is indirectly an analysis of the dream, inasmuch as it brings out the implications of the dream items, using the Experimenter as a sort of reagent.

Essentially, this record takes into account those mental processes of the Experimenter that are motivated by the intention to correct the "dislocation" of the dream: this means, to restore to the items of the dream those relationships with the memories and purposes of real life, which they have apparently forfeited. For the *meaning* of a dream-item is its relation in experience to other items, not necessarily those of the dream only.

Such restoration of the lost connections may require as elaborate a process of reasoning as in Poe's "Gold Bug"; or it may come by a fortunate guess, or seemingly intuitive perception. But actually, the meaning of the dream, in relation to the dreamer's life, is a product of inferences on the Interpreter's part, like any other scientific deduction.*

**The Value of Recording Guesses and Inferences.* The process of guessing is now acknowledged to be an integral part of scientific work. So far as this applies to dream-study, it means that guessing has its place, in the discovery of the relation between a given dream-item and the life of the dreamer. And it is found in practice that there is value in recording the guesses. For this purpose, the pages of the Dream Apperception Record were devised. They provide an objective record of the trials and errors of the interpreter; thus mirroring the spontaneous activity of his constructive imagination. The more pondered deductions, involving more deliberate reasoning, are reserved for the Dream Interpretation Record.

The instructive feature of such records of apperceptive or interpretative processes may be likened to the advantage offered by the record of some standard game of draughts, as shown in books for the students of the checker-board.

THE VALIDITY OF GUESSING DEPENDS ON ITS SUCCESS

The Procedure of Apperception. In my own experimental studies, which include several hundred of my own dreams, the record has shown that a process of trial and error,—not infrequently trial and success—is set up whereby the experimenter endeavors to find a scheme that will serve to fit together or dovetail as many of the dream-items as possible. Some of these schemata have been, in my case, trials and errors, woefully incorrect, but by dint of practice, it has been possible so to improve the procedure that a larger proportion of the guesses prove successful as time goes on.

This experience is, indeed, the common one, being paralleled in every branch of technical endeavor; the solution of each new problem depends upon the resources provided by a trained Apperception.

An important part of the final procedure (interpretation) consists in testing the contribution of these apperceptions toward the true solution. It must be shown in a given case that the apperceptive processes of the experimenter have gone no further than to retrace the wanderings of the dreamer's imagination; it must be proved by crucial tests that there is a real meaning to correspond to the supposed meaning of the dream. And it is gratifying to report that this achievement is by no means as remote from practical scientific methods as might be supposed from the elusive character of a dream, as the unit of investigation.

To lay out here such crucial tests of one's interpretative knack would be too extensive a matter. Suffice it to say that, in practice

One's skill grows with the experiences that attend such re-plays or retracings of an actual performance.

But there is a difference between checkers and dream analysis, not only in the simplicity of the conditions reviewed, but in the fact that each situation dealt with in a dream analysis is unique and difficult to reproduce in any ordinary recorded form. The mental checker-board can never be fully set up from the written record, but only with the help of the eye-witness. For this reason the objective study of a man's own dreams is likely to furnish a more instructive type of re-play, because he can more easily remember the significant circumstances. But in any case it is profitable to review one's guesses, to note how one implication suggested itself after another, or how one conception of the meaning of the dream was displaced by another that contradicted it or that improved upon it.

THE INTERPRETER IS NOT EXEMPT FROM RULE THAT SKILL NEEDS PRACTICE

with dream after dream, and quite apart from any rules-of-thumb as to symbolism, there is gradually built up a certain prescience of the relations to be expected among dream-items and their probable derivation from experience. This result has nothing occult to characterize it, although it sometimes impresses the observer as *mind-reading*: it is in reality an effect of practice of the same nature as that which characterizes skill in games or in handicrafts, or in stock-market operations.

The improvement of guessing power might be compared to the power of the checker-player to divine the probable move of his opponent: having memorized the possibilities of certain openings, this knowledge serves him in good stead when these openings are made; and he soon learns the disposition and bias of the opponent, in relation to the possible moves.

By similar acquirements, the interpreter becomes successful in filling out the blank spaces in the connections of ideas, as recorded in the earlier procedures here described. And this comes because training has enlarged his conception of the possibilities of mental association. Just as a man with a large vocabulary can often supply the word for which the man of more limited power of expression is fumbling and searching to complete his discourse, so, oftentimes, the apperception of the interpreter supplies links of thought pertaining to the dream, when the dreamer is unable to testify to them. Thus is the reconstitution of the meaning of the dream accomplished.

Steps of the Apperception Record

Apperceptions Regarding the Bouquet. On glancing over the Signalment page and noting the peculiarities of the bouquet, as a mental image having peculiar affiliations with the dreamer's memory, it will be seen that its characteristics lend themselves to various anticipations of meaning. The verbal association-properties suggest, when they do not compel, certain thoughts about punning references to themes recently active in the dreamer's mind. Other association-properties imply like or dislike, preference, comparison, distaste, impatience, rivalry, perhaps.

Out of the multitude of hints, no sane mind can fail to evolve some theory to "account for," as we say, the appearance of the dream as it stands.

Indeed, I find that children of tender years and even feeble-minded subjects, although entirely ignorant of the technique, will endeavor to trace items back to their original settings in experience, and to construct some sort of a theory. Dream analysis, as a scientific

A VALUABLE PRINCIPLE IS "PERSEVERATION OF THE UNADJUSTED"

procedure, is, then, only a refinement of a natural tendency to "make something out of" the scattered clues offered by anything that seems at first to lack coherence. It is always a question whether the meaning is in the Dreamer's mind or the Interpreter's.

In this actual case, the meaning of the bouquet was recovered from oblivion very much as one reconstructs an antediluvian animal from imprints and pieces of bone found in the rock. The pieces, in this instance, are the various association-properties of the bouquet. These fragments do not receive their meaning till the whole of which they are fragments is visualized, and each fragment assigned its place.

Now the fragments of meaning relating to the bouquet may be reconstituted into a whole meaning, in four steps: each one illustrating somewhat the uses of the corresponding "pages" of the Dream Apperception Record, as follows:

I. DERIVATION PAGE

The Bouquet derives its various association-properties or *oniric predicates* from allusions to or analogies with two recent events: two discourses on musico-psychological topics; the one being the dreamer's own unfinished lecture, the other being Rogers' remarks at a subsequent meeting.

A striking parallel has been drawn on Page D, showing an almost one to one correspondence of the dream-items with respective portions of the experiences in question. These might easily be taken to have acted as stimuli for the dream thoughts that followed, on the general principle (stated by Emerson) to the effect that our dreams are the sequels of our waking thoughts.

The derivation of dream-items would then appear to conform simply enough to the principle of the perseveration of unadjusted mental stimuli, of which note is taken in Ladd & Woodworth's physiological psychology. Accordingly, we might suppose the whole dream to be merely a carrying out of Professor D——'s thwarted tendencies of the day before, like the playing-out of a phonograph record stopped in mid-career.

This carrying out of frustrated mental tendency is well shown in those experiments with musicians in which a musical fragment is played and the artist is required to improvise a continuation; or even merely to play what comes to his mind. It is usually found that he moves on to a *resolution* (musically speaking). On this plan, Professor D——'s dream might be merely a resolution of his feelings and thwarted actions of the day before. But if we assume so simple a derivation, and attempt to visualize the dream-items as simple

reactions to these recent reproductive tendencies, we shall find discrepancies.

The reactions prove to be far more than mere echoes and more than simple associations. Even allowing for the inevitable blending and the mutual influences of simultaneous reactions to several cues, we shall have further to account for an ulterior modification, shifting of relations or, technically speaking, for an *anamorphosis* that seems to have a scheme of its own. This remains cryptic and must be sought for.

Already it is hinted that there is a clue in the possibly also "unresolved" relations of the two characters, as officials in real life. Of this matter the cryptic features seem to center in the Bouquet; and for this reason, as well as for brevity, let us follow out the preceding hints, with especial reference to the Bouquet; carrying the procedure of Apperception through its remaining three stages.

J. FABRICATION PAGE

We deal with the composition of the bouquet as if it were a compound or mosaïc of associations. Its attributes are strikingly similar in "signalment," both as to verbal resemblances and other analogies, to (a) the unsatisfactory features of the dreamer's own performance as a lecturer, and to (b) the ill-received portions of Rogers' musical comments and psychological observations. The arrangement or "syntax" of these fragments suggests a blending of the *disapproved features* of both discourses, the distasteful features being strongly emphasized by analogies in the dream. Possible puns are suggestive: floweriness, "everlasting," "common," and other features too elaborate to discuss here; but none the less of a type that is remarkably frequent in dreams, since verbal reactions in their simplest forms often achieve the outward appearance of puns.

With all its characteristics, the Bouquet is dressed up, in the dream narrative, as an offering and is the subject of a definite proposition on the part of Rogers. It is from this Bouquet, this pot-pourri of disagreeable qualities (oniric predicates) that the dreamer turns away. But as this now brings us to *like and dislike*, to acceptance and rejection, to assent and dissent, we must turn, for these aspects, to the next page.

K. CONATION PAGE

We now realize that the Bouquet seems to have been picked with reference to motives or conation.

The only agreeable association with the Bouquet, this pot-pourri of dream-allusions to Rogers, lies in its being made by him, an

BY GOOD FORTUNE THE DRIFT OF THOUGHT CAN BE TRAILED BACK AND ASSIGNED TO A MOTIVE OR "DRIVE"

occasion for Professor D—— taking the place of the former at the piano. This may possibly involve a piece of verbal imagery based on the idea of "handing a bouquet." In any case, the Bouquet appears, in the dream, first of all in relation to a desired compliment.

Otherwise, however, the dreamer's behavior, his apparent tendency or "endeavor" in the dream, is to avoid or disregard that for which the bouquet stands. This is seen to apply to what the bunch of flowers intrinsically represents in the dream: something elaborate, a little pretentious, and connected with a non-essential aspect of music. It is treated by Professor D—— as something rather out of his line, (apart from the dream), in view of his greater interest in vegetables than in bouquets. In the dream it is viewed as a task-object not of his own choice, but rather imposed upon him by Rogers.

The above is, then, the experimenter's way of apperceiving the significant features of the dream and of the associations.

It is already a sketch or scheme of interpretation, in which it only remains to insert the unknown quantities. The preliminary apperceptions of the first three pages in this procedure are intended to prepare the *niche* for these, each to each. The finding of the exact mental images to place in each niche is the final step of apperception; it is, of course, only a refinement of guess-work; but the "images" will, in many cases, be found to fit their supposed emplacements. An example will be shown on the next "page," illustrating this trial-and-error feature of the experimenter's guesses.

L. REPRESENTATION PAGE

In this final step of apperception, we take the bull by the horns and make a provisional decision as to what the bouquet "represents" in the life of the dreamer. Obviously, it must be something that answers the description given in the *signalment* of its component items. Some unknown object of thought is "wanted" and can be reached only by looking out for something that conforms to the "finger-print" earmark or *cachet*, afforded by the dream and its associations.

All of the imprints thus brought into view (and mostly summarized on the Signalment page) furnish clues whereby the significance of the dream items may be followed back to the source and origin of meanings—namely, in the memories and life-tendencies of the individual. The dream narrative, and the associations obtained in con-

nection therewith, accordingly function as partial impressions of an unknown total; this must be reconstituted, step by step, clue by clue, until the probable or even the certain character of the residue of hidden qualities and tendencies shall have been established.*

Such is the general picture of the course of verifying guesses at the meaning of dreams, when the experiment is conducted with the full apparatus of logic, the possibilities of which I am now trying to illustrate. But the laborious technique of dream interpretation is not always as dramatic as the tales of Poe, yet may be said at times to rival them in the vividness of their dénouement. And this usually comes with the verification of the guesses of the Experimenter as first sketched in the rapid-fire procedure of Apperception.

The Representation page is simply the last step in the recording of those apperceptive reactions that are called guesses. In the words of Poe's hero: "I have no right to call them more—since the shades of reflection on which they are based are scarcely sufficient to be appreciated by my own intellect, and since I could not pretend to make them intelligible to the understanding of another. We will call them guesses, then, and speak of them as such."

*Thomas Huxley explains what we may call the Zadig Test in his essay "The Method of Zadig." A similar logistic requirement is outlined in Poe's "Gold Bug," and an example of the same method is furnished by the reconstitution of "The Murders in the Rue Morgue."

In this story, it will be remembered, there are witnesses who testify to having overheard the vocal utterances of the murderer while he was at his deadly work. Each witness appeared to have apperceived the peculiar chatter in question as utterances in a foreign tongue; in each case *not* the accustomed language of the witness. Although these apperceptions proved in every case illusory, none the less, by deduction, the detective Dupin proves himself able to infer that it must have been an Orang Outang that these witnesses heard, and that such an animal was the real murderer. The verification follows (as always in such detective stories!) by the confrontation with the facts; Monsieur Dupin advertises for a suppositious owner of the hypothetical Orang Outang, describing him as a sailor from a Maltese vessel—a signalment purely inferential. But the train of inferences is finally justified through the response in person of a Maltese sailor, who comes to claim the Simian pet that he had lost, and from whom a validation of all the guesses is obtained; eventually, the escaped animal that the advertiser only *professed* to have captured is recovered by the police.

SUMMARY OF THE GUESSES

Made in the Course of the Dream Apperception Record

Regarding the dream as a whole, we have reason to suspect, from Professor D.'s admissions, (cf. page C) that the dream was indeed a carrying out of tendencies that had been aroused by his choked-off attempts to "spiel" to his own satisfaction, the day before at the two meetings in question. Indeed, Professor D., even at the early stages of the analysis, had admitted that he had been surprised by the revelation of the persevering tendencies holding over from the unadjusted feelings aroused at these meetings. On this account, my first guess at the meaning of the Bouquet and other items, was influenced by the idea of a simple perseveration of affective reactions.

This finds color in Emerson's dictum: "Our dreams are the sequel of our waking knowledge. The visions of the night bear some proportion to the visions of the day." Exactly what proportion, in each instance, is the problem of dream interpretation, so far as it is scientific.

Guess number one. This first guess was influenced by a good many considerations that I have since learned to discount. Like many naive persons who have never heard of supposedly scientific dream-interpretation, I turned to the nearest clues at hand and to such traditional principles of human thought as wish-fulfillment and fantastic analogy. (For, of course, it would be a mistake to suppose that these have not been in all ages applied to the elucidation of dreams.)

Because the Bouquet's association properties or signalment had so many features in common with Prof. D.'s own discourse on music and with Rogers' remarks, I jumped at the conclusion that the bouquet must represent some task-object in real life, which the dreamer was confusedly thinking of, in terms of analogy. Thus, I took the image of the bouquet,

with all its properties, to be equivocal with "my discourse on the music topic assigned to me."

The dream might represent a comparison between two rival ways of treating the Bouquet (musical topic) with a stage-business of abandoning the non-essential aspect of the matter in favor of the preferred purely esthetic side of music. From this standpoint, the dream was a simple carrying out of the thwarted tendency to finish the esthetic part of the lecture-topic of the day before.

Guess number two. This did not seem to be enough. By a shift of the mental kaleidoscope (which seemed to be comparable to the change of apperception in the staircase illusion) I began to see a likeness of the Bouquet to the unsatisfactory subordinate position (as a task-object) that Professor D. had declined when offered by Dr. Rogers.

The importance of Dr. Rogers *in propria persona* rather than as an *alter ego* began to loom larger. Taking this Bouquet to represent that proffered position in the Interstate organization, I could see the analogy with "something offered in a flattering manner." But I encountered a diversion in the course of my own apperceptions, in the form of a strong sense of the incongruity of Prof. D.'s accepting the seat vacated by Rogers, while disregarding the conditions under which it was being so graciously offered, i. e., task of characterization.

Guess number three. Without getting away from the belief that the Bouquet was a vicarious representation of some task-object, I guessed that the dreamer might be reacting to two cues at the same time: (1) the disagreeable features of the official position that had been offered, and (2) the unsatisfying feature of the *discourse on the sensory side of music.* For Prof. D—— was evidently still wishing that he had disregarded this, or at least treated it more scantily.

The two foregoing guesses at what the Bouquet might represent were thus in a measure unified.

As a further step in the reconciliation of the two guesses, it occurred to me that the very fact of there having been two unresolved thoughts so recently active in the dreamer's mind,

and with such obvious points in common, would be the very reason for their having secured a blended representation in the dream. (Cf. Lewis Carroll's "portmanteau words.")†

In this third guess, I got so far as to see that Professor D. was, in fancy, maintaining an attitude of superiority and aloofness toward the blended task-objects, as represented by the bouquet. I surmised that the dream represented a "resolution" of situations relating to the two task-objects from real life, taken together as a subconsciously blended problem.*

Guess number four. I proceeded to narrow my guess about the constituents of the Bouquet as a mental reaction. Seemingly it corresponded to what might be called the frills and the more pretentious things of the dreamer's profession, namely the lecture on music, and the honorary position in the Interstate organization. Both seemed to be looked down upon as outside of the regular routine of his duties as an instructor.

From his treatment of the Bouquet, I apperceived the meaning of the dream to be *a renunciation of too ambitious tasks* and a return to the idea of remaining satisfied with the more solid and essential features of his work: "The music is the thing." The game had been decided to be not worth the candle. Does this apply to the "position" in real life?

In the confusion of this guess, I regarded the renunciation as a twofold one. This halted the apperceptive process.

Guess number five. Starting in again to review the dream from the standpoint of the preceding guess, I made it out that the renunciation of the task of characterizing the Bouquet was not entirely as humble as I had been inclined to suppose. It was a renunciation tinged with superciliousness toward Rogers (as if saying "I am as good as you") and toward his

†Preface to Hunting the Snark.

*This sort of guess has secured verification in my further studies so often that I have come to regard such blended images as fully as natural and easy of production as the well-known blend-words of everyday experience; such as those formed by children or by illiterate persons: "this battle was a Molochaust"; "he has a namia—*name* and *mania*—for using up all the cream at dessert."

SENTIMENT OF AMOUR PROPRE IS FOUND TO BE FUNDAMENTAL URGE

offering, while at the same time it showed the satisfaction of attending to a task that Prof. D——— liked better than characterization (with its slavish features), namely, improvisation on his own account. Thus, the renunciation appeared as the expression of a distinct preference, and at the same time a satisfaction of *amour propre.*

Guess number six. Following the clue of *amour propre* (which, by the way, I have since found to be often quite as valuable as any sex clues). I tried to unify the preceding guesses.

1. There had been a lack of satisfaction both of interest in music and of *amour propre* in connection with the "spieling" on music.

2. This had sharpened the desire to "spiel" in Rogers' place when a similar topic was under consideration at the second meeting; *amour propre* being thus challenged with the additional fact that . . .

3. There had been a certain amount of emulation and rivalry with Rogers, who had offered a subordinate position to Professor D——, the character of which had seemed unsatisfactory.

4. *Amour propre* is accordingly satisfied in connection with the Bouquet by passing on to the "non-frilly" side of music and in connection with Rogers by . . .

5. Occupancy of Rogers' seat as a "spieler," and by disregard of the requirement imposed by Rogers upon the "spieler."

The essential features of my guessing may be summarized as a belief on my part, more or less intuitively reached, that the dream was simply a picturized by-product of the following reflection, going on in the background of Prof. D.'s mind; to-wit:

> *"I am anxious to occupy a position equal to Rogers, to surpass him in the things he does; but I do not care to play second fiddle. For this reason I do not care to eat out of his hand enough to attempt the tasks he sets me;* [thus reviving a previous situation in memory] *whereas, having shown myself his equal as a 'spieler' I am satisfied to pass on to the things that I count as real achievement."*

It seemed to me that besides the restoration of *amour propre* thus accomplished in fancy, there was a simpler fulfill-

ment of the frustrated attempt to deal with the lecture subject. As to this the reader can satisfy himself by applying these guesses to the reconciling of the data in the various "pages."

As to my own attempts, they ceased at this point, for the reason that I saw no way of continuing the investigation without infringing upon the privacy of Prof. D.'s professional interests.

IV. THE DREAM INTERPRETATION RECORD

Several years later, on passing through the town where Prof. D. carries on his work, I learned that he had become Director of the aforementioned Interstate organization, succeeding thus to the office held previously by Dr. Rogers. At once, the dream that I had wrestled with for years recurred to mind; and I took the trouble to get data more accurate than ever before I had dared, from Prof. D. himself; this time, of course, there was less fear of indiscretion!

Steps in the Validation of Guesses

But even before approaching him, I reverted to the "page" system I have been describing and carried my inferences (scarcely to be called guesses any longer), through the first two stages of the Dream Interpretation Record, of which the pages follow:—

M. Exegesis Page. N. Hypothesis Page.
O. Confrontation Page. P. Reconstitution Page.

M. EXEGESIS PAGE

It had not occurred to me to imagine Prof. D. ambitious for the Directorship; but now I began to consider seriously this highest office as having perhaps been all along the object of Prof. D.'s consideration. I tried to fit my various previously evolved apperceptions (cf. Dream Apperception Record) so as to harmonize with this idea.

Taking each unit of the dream in turn and applying, not the Freudian conception of the Dream Symbolism, but the idea of hit-or-miss resolution of unadjusted reproductive ten-

dencies, I reached the judgment that the piano-stool stood for the Director's chair. (Cf. also Representation Page.)

The Bouquet then naturally seemed to fit the idea of the office that Rogers had formerly offered, which Prof. D. in real life had refused, but which in the dream-allegory is simply treated with mild disdain.

Without going any deeper, I may say that a definite hypothesis was evolved, capable of being tested, as we shall now see.

N. HYPOTHESIS PAGE

The specific hypothesis that I made was as follows:

1. At the time of this dream, Prof. D. must have considered being elected to the office of Director.

2. He must have felt a certain reticence about discussing it; which would explain my failing to obtain clear associations.

3. He had some unadjusted feelings about Rogers in connection with the matter.

These propositions were submitted to Prof. D. with the request that he take part in the attempt to confront them with the facts. Of this attempt, the record is given in brief, as also that of the next page.

O. CONFRONTATION

1. On looking up his private records, Prof. D. found that he had known, before that dream, and within a short time of it, that his name had been proposed to the Board whose business it is to place in nomination the candidates for the Directorship.

2. As illustrating the degree of delicacy of Prof. D.'s attitude toward such matters, I may report that he somewhat deprecatingly assured me that he had not known of the move of the board to place him in nomination till the matter had been voted on. It seems that it was decided he should not be

nominated till the following year: a situation rather calculated to make a man feel assured of, and yet somewhat diffident about the nomination.

3. As to the unadjusted feelings about Rogers, the experimenter now discovered that he had misconstrued the information given years before by Prof. D. (Page E Item 402). The fact came out that the office held during Prof. D.'s apprenticeship under Rogers, was not recognized as a regular office. At the time of the dream, however, he had received from the excellent Dr. Rogers an offer of the Secretaryship—an office suggestive of burdensome tasks.

It follows, then, that the actual situation at the time of the dream was this: Prof. D. was contemplating eventual accession to the Directorship, in the face of having rejected the honor offered by Rogers. (There was some doubt as to what was a qualifying office for the Directorship.)

On all points then, the hypothesis that the "Stomachic Bouquet" dream had been an *ambition dream* attained confirmation. This was a contradiction of a large part of my apperceptions; yet these had served none the less to bring out salient features of the dream-meaning, perhaps from the very fact that I had dared to be hasty and partial in my guessing.

A vast world of speculation and of philosophic thought looms like an overshadowing mountain at this point. But it is the business of the would-be interpreter not to wander too far in search of causes and implications but, as I have repeatedly said, to try simply to reconstitute the process of association, as a definite sequence of mental events. This we shall now do, on the basis of all that has gone before, including the verified hypothesis.

P. RECONSTITUTION PAGE

Aiming in this instance at a very simple and perhaps even sketchy reconstitution, I shall ask the reader to be content with tracing the thought sequence, in much the same way that children even are wont to follow back the succession of thought.

This procedure is described by Poe in the following words: "There are few persons who have not at some period of their lives

amused themselves in retracing the steps by which particular conclusions of their own minds have been attained. The occupation is one often full of interest, and he who attempts it for the first time is astonished by the apparently illimitable distance and incoherence between the starting-point and the goal."

Following the same procedure, let us imagine that we are retracing the dream as a chain of associations, starting with the word *stomachic* as a stimulus:

From what we have seen, "stomachic" is a word that would tend to arouse reflections concerning a certain *preciousness* and floweriness in the manner and language of Dr. Rogers. The picture of him "spieling" would thus be suggested. But this slang word (which would introduce itself very naturally into the diction of Prof. D.) would encounter a strong associative trend towards "spieling the piano"; this being dictated by the musical contexts.

Accordingly, as the result of the juggling of tendencies, there appears the picture of Rogers with a flowery stomachic ornament, playing at the piano.

The *impatience to have his turn,* having been a reaction on Professor D.'s part at the meeting where Rogers spoke, is next called into play, but is modified by a sort of "interference with recall": it is not the pure memory of being given the floor after "mentally cursing" Rogers, it is a transformed memory affected with thoughts about Rogers borrowed from a different, ulterior context, namely from the sphere of professional rivalry or emulation.

Accordingly the picture is one of Rogers giving his place to the dreamer, the *place* being (quite in context), an image representing the dreamer's desire to occupy the Director's seat, occupied formerly by Rogers in real life.

I do not think the piano stool was in any proper sense a "symbol" of the Directorship. I simply treat it as by-product of associative affinities remaining unsatisfied (physiologically) at the moment. From such by-products, though they themselves may be remote from anything properly called a symbol, one may, as if dealing with symbols, often bring into light hidden implications of the dream. This dream, as I told Professor D., revealed a degree of interest in his own advancement

toward the Directorship, that one would scarcely have suspected in him! His desire to change places with Rogers!

Night-dreams trace on memory's wall
Shadows of the thoughts of day,
And thy fortunes as they fall
The bias of thy will betray.
(R. W. Emerson, "Demonology.")

But the *change of places* in the dream-play is followed by a more puzzling phantasy relating to the Bouquet. In the light of the knowledge we now have, it was a natural transition that Prof. D.'s fancy should have shifted from the simple idea of taking the seat vacated by Rogers, to the thought of *the conditions and limitations under which that seat was to have been occupied.* This implies thoughts of the subordinate position that Rogers had once offered.

The "picturizing" of this, evidently, took place along the lines of pre-existing facilitations: the flowery bouquet (with disagreeable qualities now standing out one by one) is offered as a task-object; but as such is disdained as well as renounced.

Substantially, what happened in the course of the dreamer's fancy was that he pictured himself occupying the place left vacant by Rogers, while at the same time he does so in disregard of the conditions under which Rogers has made the offer of that seat. This aspect of the dream directly parallels the cogitations of Prof. D. as a waking subject, to the effect that *he hoped that he could be Director, in spite of having refused the Secretaryship offered by Rogers.*

The dream gives evidence that this idea continued to be worked over in his dreaming consciousness; it is as if he were in fancy anticipating what actually did happen in real life: that he filled Rogers' place in the face of having elected *not* to hold the subordinate office of Secretary.

This dream, thus, illustrates one more of the dicta of Emerson: "The dreams of the night supplement by their divinations the imperfect experiments of the day." (p. 216, v. VIII.)

EXPERIMENTAL APPERCEPTIONS ARE JUSTIFIED BY RESULTING INTERPRETATIVE INSIGHT

VALIDITY OF GUESSES AT DREAM MEANINGS

The illustration I have here made of the guessing process might seem to leave the whole subject of dream interpretation in the air, were it not for the fact that this guessing process actually led up to a solution of the dream. What was done in this case is not the exception but the rule in dream work as I have found it in laboratory and clinical practice, whenever the method here sketched was employed.

That which should reconcile the logician and the experimentalist to the method of analysis here portrayed is that it does, as no other method so far described, lead up to an intelligent comprehension and verification of an overwhelming proportion of the dreams to which it is applied. This is a matter of established fact to which my associates can testify.

Even the successes of the Psycho-analytic methods may be adduced as an illustration of the fact that the guessing process has greater merit than the majority of psychological critics of dream analysis have realized. The reason whereof I shall try to explain.

The Trial-and-Error Process

If the nature of the above guessing is examined, it will be seen that it answers to the description of mental groping (tâtonnement) or tentative approximations leading to the problem's solution. This process is abundantly illustrated in the guessing of charades, riddles and philosophical problems, familiar since the dawn of the history of human intellect. To enlarge upon this would be to impugn the intelligence of the reader; but it is another matter to call attention to the fact that mental groping partakes in all essentials of the justly famed process of biological trial-and-error.

On this basis, we can classify the guesses I made at the meaning of the Dream of the Stomachic Bouquet, as a special way of responding to cues or clues and incomplete information by using a process of trial-and-error.

This process, on careful consideration I have found to be a function of *apperception by steps.*

My guesses, then, may be classified as apperceptive trials, the object of which was to "make something out of" and confer unity upon the hints afforded by the dream items. Correspondingly, each flash of supposed insight into the meaning of a given item, each intuitive (albeit momentary) belief in the discovery of a relationship ("hang-together") among the items of the dream may be classified under the head of Trial Apperception.

Now, the interpretations and supposed fixed symbols of Psycho-analytic schools fall under the same head; for they represent more or less sterotyped ways of *apperceiving meaning* in connection with given items of dreams, or groups of a number of items. But the Freudian and other existing schools of dream interpretation scarcely go any further than to evolve Trial Apperceptions; and too great a credence is placed in these outcomes of the guessing process.

Scientific faith in the guessing process has, among psycho-analytic devotees, degenerated into scientific credulity. And this is my reason for insisting that if the guessing process is to be made a reputable aid in dream interpretation, it must be treated as merely a trial-and-error process from beginning to end and corrected by the more logical tests embodied in the Dream Interpretation Record.

The Reconstitutive Method

Following for years along this line of thought, I came to see that in making Apperceptive Trials at the meaning of dreams, I was, whenever successful, simply retracing the wanderings of the dreamer's mind and that the correctness of my interpretation was largely dependent upon success in getting back to his starting point for the different lines of thought or of free association of which the dream was the outcome. It was inevitable, thereafter, that I should begin to regard the dreaming process from the standpoint of *mental reactions* (in the sense of "stimulus-and-response") and equally unavoidable that I should look with suspicion upon, and eventually reject

altogether the peculiar transcendental notions of Dream Symbolism to which the Psycho-analytic schools actually testify. Thus did I come to visualize the interpretation of a dream as the *tracing in reverse* of a process of mental reaction originally produced by the Apperceptive Trials of the dreamer himself.

He was "resolving" specific cues and stimuli, either as a sequel of the day's "multitude of business" or as sensory influences acting during sleep, as the case might be.

My apperceptions were leading me to *reconstitute* logically all the stages of the dreamer's endeavour toward a reconcilement of the "determining tendencies" playing within him. But why was he less logical than I in his management of apperception in sleep?

Finger-Posts to Meaning

Under the conditions of sleep the mental reactions of a subject are affected with peculiar variations from the normal—undoubtedly dependent upon the partial inactivity of certain brain areas. As a result, there is an abnormality in the relation between stimulus and response which contributes the feature called *bizarrerie* in dreams.

This abnormality is due to an interference with recall, comparable in its mechanism with other kinds of interference with recall. This is demonstrable through the study of individual differences in dreams. In the light of such differences, it appears quite unnecessary to assume that repression (or what is more technically called inhibition and negative attention) is the principal cause of the bizarrerie of dreams. The interferences with recall seem to be a matter of momentary "mental preparedness": that is, the impromptu response of a dreamer to the cues operating upon his sensorium or upon his memory is affected by the immediate state of mental preparation in which he may happen to be.

If he is "facilitated" along certain lines of association, he will respond in those directions, even if the cue or stimulus is logically remote from those associations. Contrariwise, if he is inhibited along certain lines, and if at such time the cue

or stimulus would normally tend to evoke reaction along those very lines, the dreamer will nevertheless avoid or sheer away from the normal reaction, by the very reason of the existing inhibitions. Accordingly, the discrepancy, in a given case, between the cue or stimulus and the normal response thereto, affords a measure of the state of facilitation or of inhibition at the time of reaction.

Thence we may by orderly conjecture, infer a state of mind composed largely (as all states of mind must be) of facilitations and inhibitions. But to say that inhibitions prevail as the cause of bizarrerie in dreams, in any such sense as implied by Freud's theory of repression and of censorship, is to neglect and overlook the immense variety of biologic processes that are embodied in the behavior of consciousness.

Refusing then to be bound by the formulations of the schools that were supposed to have discovered the meaning of dreams, I ventured to take into consideration all sorts of reflections and hints as to the nature of dreaming that came to me from literature, from biological science, from physiological psychology and most fruitfully, from the laboratory and clinical investigation of dreams. The result was what has now come to be most conveniently called the Trial-and-Error theory of dreams.

This formulation has already been somewhat laboriously worked out in the Journal of Abnormal Psychology (from 1914 to 1921) with the hope that it might contribute to the psychology of human thought and motive.

The present Introduction opens up, more systematically than theoretical formulas can do, the practical technique through which the Trial-and-Error Theory of Dreams may be tested and applied.

Book I

Chapter 2

THE DREAM PROBLEM

Conspectus of the Investigation

CONSPECTUS OF THE INVESTIGATION

With a Preliminary Historical Survey of Representative Methods Applied to the Problem of Dreams

EVEN a superficial study of the history of dream investigation will justify us at once in distinguishing between two modes of approach, or, at least, between two general attitudes of workers toward the dream problem. The one is that of scientific inquiry directed to the task of explaining dreams as natural phenomena; the other is the striving to explain dreams as occult or supernatural phenomena. With the latter mode, we can have nothing to do in the present discussion. It goes back to the remotest antiquity and will probably be perpetuated indefinitely among the superstitious and the mentally untrained.

Of the scientific attitude, we have an early record in Aristotle's collection of short essays on sleep, dreams, memory and reminiscence, and divination in sleep. He took the scientific tone throughout and did his best to remove contemporary misconceptions as to the prophetic functions and miraculous features of dreams. In the face of the present avalanche of literature on the subject of onirology, it is a comfort to return to the consideration of Aristotle's sane and balanced viewpoint, couched with remarkable acuity of literary expression, demonstrating an intelligence so great that it could triumph in this particular instance over his unavoidable ignorance of two of the greatest factors in sleep and dreams, namely the functions of nerves and of the circulation. Yet Aristotle did not furnish any detailed explanation of his technique for investigating dreams, his statement being limited to mere hints. It is in his theoretical statements on sleeping phantasy that he is richest. To his efforts in this direction, we owe the famous mention of the crossed-fingers illusion, now known as Aristotle's Illusion.

ARISTOTLE FURNISHES EARLY EXAMPLE OF SCIENTIFIC APPROACH TO PROBLEM

We may summarize the concern of Aristotle in the dream problem under three principal aspects:

First, he evidently studied, or wished to study, the dream imagery as a sign or indicator of something—otherwise not known—that is going on in the body; and he recommended to physicians the value of this back-trailing of oniric reactions.

Secondly, he wished to trace the phenomena of dreams to reactions made by the sleeping organism in response to slight noises or other stimuli which, as he points out, may be casually observed as operative at the moment of waking. It will be seen that the present investigation owes such fruitfulness as it can lay claim to largely to the critical and practical use of this method which, apart from Aristotle, was dictated to me by common sense born of experience with multitudes of dreams that the Freudian Theory could not deal with adequately.

Thirdly, Aristotle studied the dream as an associative process by its own internal evidence, on the basis of what we now call *association of ideas.* For instance, he depicts the passing of the mind through a chain of thoughts, *a,b,c, d, etc.,* "as when one passes from the idea of whiteness to the idea of milk." Incidentally, Aristotle showed a very keen, if somewhat too formalized, sense of the "types of association" as we crudely speak of them today. But more interesting as a finger-post to the future of onirology is his allusion to the skill with which he credits the dream interpreters of his day. His statement is well worth quoting and bearing in mind in connection with present day controversies over psychoanalytic readings: "The most skillful interpreter of dreams is he who can discover resemblances. For a plain dream can be interpreted by anybody. By resemblances, I mean, as I said before, that the pictures of imagination are very like pictures in water. In the latter, when the movement is violent, the reflection and picture bear no resemblance to reality. And so the clever interpreter is one who can quickly distinguish and see at a glance in a confused and distorted picture the suggestion of the man or the horse or whatever the given object may be." [1]

By this simile, Aristotle tends to establish in our minds a fact that has apparently been lost sight of in much that has been written of late on dream interpretation, and that is the

HOBBES FOLLOWS TRAIL OF IRRELEVANCIES IN DREAMS—MAURY ATTEMPTS IMMEDIATE OBSERVATION

fact that the dream reading is apt to be primarily an apperception on the part of the interpreter, the validity of which must wait upon a second thought or technical evaluation of some kind. So far as Aristotle goes, however, we cannot say that his works actually achieved the formulation of any definite technique that would furnish anything like a valid test of dream interpretation according to those modern standards of criticism which Moulton has so beautifully presented to us.

As Aristotle leaves us in doubt as to the degree of accuracy and refinement to which dream-study had been carried by him or persons of his acquaintance, so, also, does Hobbes in his dissertations on dreams. He, too, brought out a famous instance of associative error in connection with his discussion of dreams; for his famous example of the Roman penny, as a vagary of thought that could be explained by the principles of association, has taken its place in psychology alongside of Aristotle's Illusion. But Hobbes, suggestive as he was in his effort to bring dreams under a system of definite explanation applying to thought linkages in general, did not, any more than Aristotle, give us any assurance that in a given case of dream interpretation, he himself would not go astray and be as "impertinent" to the real subject matter under scrutiny as his famous questioner who asked "in a Discourse of our present Civil War, what was the value of a Roman Penny." [2]

The next writer on dreams who can lay claim to anything like a scientific mode of investigation is Alfred Maury. His technique was to observe the course of his phantasies both as he went to sleep and as he came out of sleep. The first observations led him to give a great importance to what are now called hypnagogic hallucinations or illusions. The second or awakening type of observations led him to observe dreams in the common acceptation of the word. His method has this peculiarity, that, as he himself puts it, he would be waked by some device all of a sudden, *en sursaut.* [3] Thus, his two types of observation were in marked contrast; in one case he dealt with the gradual lapsing of normal waking consciousness, while, in the latter case, his awakening came in such a manner that he necessarily cut down the extent and gradualness of the transition between sleeping and waking. In other words,

he did not make the best possible use of the "somnotic interval," as we may hope to show when our own technique is explained.*

Perhaps the most ostentatiously scientific dream investigation is that of Mourly Vold.[4] It is suggestive of the attitudes of the laboratory. The dream records are tabulated with the greatest possible care. We read of "stimulation of the upper and lower extremities," of the nights when the ankles were bound, and of the nights when the hands were stimulated by gloves being placed on them, etc. But, in final analysis, it turns out that the investigation does not cover the dream problem with sufficient breadth to take the place even of the methods that Aristotle sketched. This is due to the fact that Mourly Vold, in true laboratory style, attempted to confine his observations to what seemed strictly relevant to the alleged experiments, namely, the stimulation of the bodily parts and recording of the supposedly apposite dream reactions produced thereby. It does not seem to have impressed itself upon him sufficiently that a dream may be at any time an immense excursion of the mind into a field of experience (or of reaction upon experience) that must be verified on the side of memory and emotion as well as on the mechanical side of binding hand and foot. Accordingly, the sense of academic security and of scientific probability which the experimenter obtained from his laboratory-like *mise en scène* seems to have put him off his guard in respect to the necessity of similarly accurate precautions to lay hold of any truly significant contribution from the realm of psychic experience.

Thus, he was unable to draw a genuine parallel between the systematic stimulation and the unsystemized mental response; for he had failed to attain a record of anything but the most superficial aspect of that psychic response. Yet he did lay an excellent foundation on which to proceed with the study of the psychological state called dreaming; for he attempted to detect the definite relationship, if any, between the dreamer's imagined self-movements or the postures of the dream personages, and the stimulation of specified somatic regions.

* "Somnotic" is a word coined in order to designate phases of *natural* sleep too often assumed to be in some way hypnotic.

MOURLY VOLD DISCOVERS MARKED INADEQUACIES IN HIS OWN METHOD

The deceptiveness and confessed incompleteness of such a depiction of cause and effect is, however, demonstrable any day by the fact that many dreams are found in which the dreamer himself is imaged forth as moving, standing, or lying in definite postures utterly at variance with the actual one in sleep at the time of dreaming. There is no certainty whatever in such alleged correlations. Nor did Mourly Vold maintain them. Actually, there exists only a co-relation of memories with sensations as between cue and recall in the dream, leaving cause and effect to be determined by a technique that owes little or nothing to the ordinary laboratory point of view.

§2. Deceptiveness of Dream Experiments

In Mourly Vold's laudable ambition to be objective, he was led to slight the fact that the physical situation, however confined and restricted and closely observed, can never be of the same order of magnitude as the psychic situation. The experiments of the physiological laboratory or the stimuli applied physically to the sleeping person are like a drop in a bucket compared with the tremendous range of the psychic interplay of memory factors. To recur again to a typical item, Mourly Vold finds that the subjects who, while sleeping, fall into a particular posture are apt to represent themselves in that same posture in the dreams; unless one notes the exceptions he gives, one is likely to deduce a law or rule of postural apperception. This conclusion does not tempt me personally, because I have records of dreaming of myself flat on my stomach when I was actually lying on my back. To repeat, it is no uncommon thing to dream of oneself standing in some imaginary scene in a posture bearing no relation whatever to one's actual position. In other words, the fancies of the dream develop on a principle of disembodiment which sets at naught the laboratory-like precautions of binding the foot or putting gloves on the hand; the mentality is untrammelled—foot-loose and free-handed—even under such applications of the experimental method.

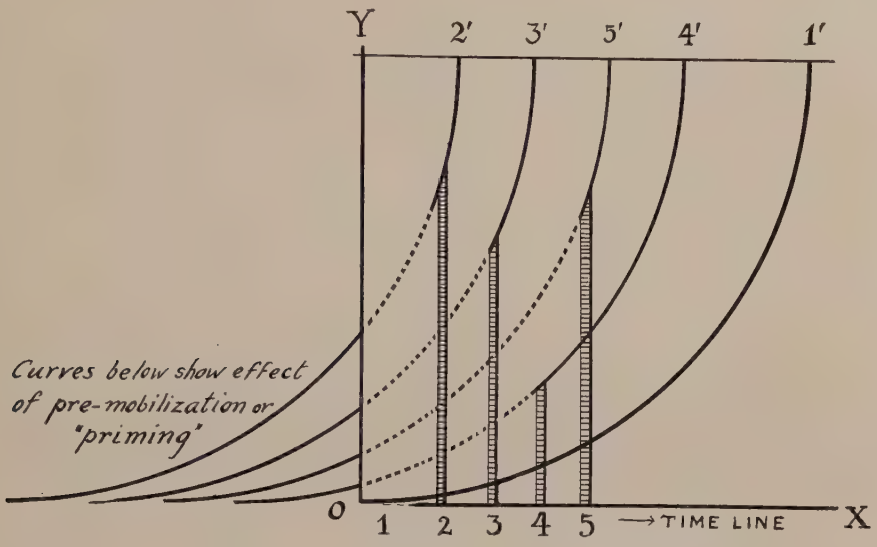
We have seen that the objective views and observations of the Mourly Vold school are almost a *reductio ad absurdum*

of his experimental ideal. It offers perils; it is the Scylla of objectivism, while Freud's go-as-you-please is the Charybdis of subjectivism. I sought the *via media.*

It proves to be a mere assumption that artificial stimulation of the dreamer constitutes a superior quality of experimentation. This assumption rests upon a preceding fallacy to the effect that the experimental stimulus is being applied to a set of simple conditions within the organism. But, on the contrary, the organism goes to sleep laden with memories and residual stimuli derived from "the multitude of business." (*Ecclesiastes,* v, 3.)

The presence of such facilitations tends to vitiate the experimental character of the layout because there is ordinarily no way of eliminating the high degree of variability in the total response that follows upon the application of the selected stimulus. For the agency that provokes a mental reaction in sleep under these conditions must be treated as only one of many causes. In an experiment of this sort, the notion of causality finds itself stultified by cases of *post hoc propter hoc.* This is clearly misleading in those dreams where the stimulus that wakes one acknowledges not the slightest connection with the course of the phantasy. In some dreams, the wakening stimulus is represented in the phantasmagoria. This is often mistaken for a case of the wakening stimulus simply breaking into a pre-existing dream. This is indeed the view that Bergson has relied upon in his clever explanations of the dream of insufficient clothing. But I have been able to show that the supposition of *interrupted* dreaming is fallacious and that, in reality, the dream that precedes the recognition of the stimulus is integrally part of the reaction to the wakening stimulus, that is, the images that come are ancillary to the stimulus although chronologically preceding it in consciousness. Regardless of order of appearance, all the dream items may be satellites to the idea corresponding to the stimulus, as a whole or in part, each item being a facilitated response to one element or fraction of the idea set at work by the stimulus. But the facilitations may overshadow in importance the function of the stimulus. [5]

FIG. 9. An illogical sequence of ideas (2′, 3′, 5′, 4′, 1′) is diagrammed here to show the underlying causes which have broken up the proper order of the stimuli (1, 2, 3, 4, 5). The vertical, ladder-like columns represent "facilitation" which, in each case, cuts down the time occupied by the mobilization curve



In both diagrams, priming is shown to be the result of some previous event that partially fulfilled the conditions necessary for bringing the unit in question to the point of complete mobilization

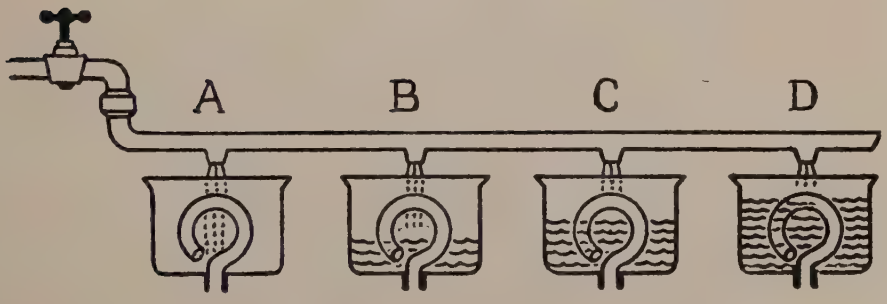


FIG. 10. Each unit A, B, C, D is a so-called Tantalus Cup, which has the property of emptying suddenly when it is near the filling point. This is due to a siphon action of the Q-tube which is set off when liquid rises to its top. Pre-filling cup makes its siphon act the sooner. Now suppose flow from a tap T irrigates A first and then the pre-filled cups B, C, D: these will discharge in reverse order, ahead of A, though this was first irrigated

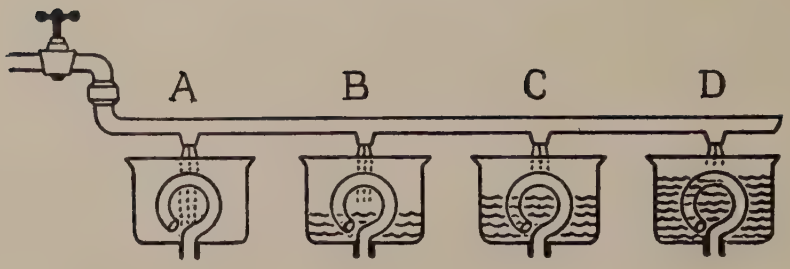


FIG. 11. In the diagram, the faucet is supposed to have just been opened to let water into the pipe that irrigates in due sequence the Tantalus Cups A, B, C, D, which are bound to discharge in reverse order according to the amount of their priming or prefilling. This operates like so-called facilitation in neuro action

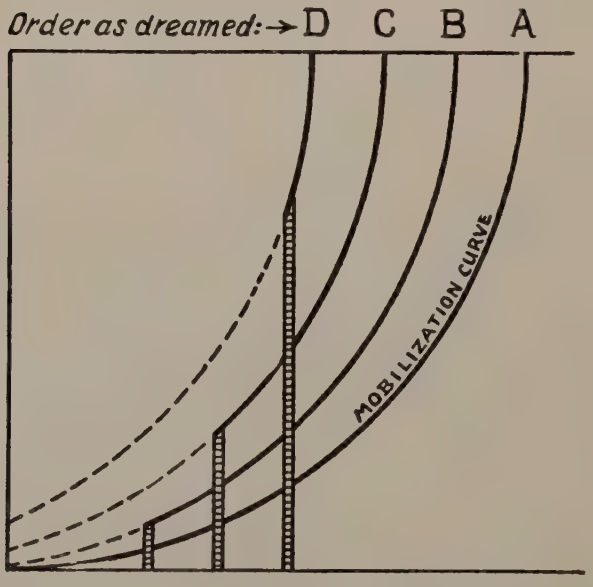


FIG. 12. The longer the full-line curve, the greater is the lag or apperceptive delay affecting each response in inverse proportion to its previous facilitation.
This diagram shows the lay-out of the facilitations that account for an unusually direct "inversion of time." Innumerable combinations of sequences like those of Figure 9 are met with, showing a chronometric mobility among items of recall that parallels the geometric mobility exhibited in the tangram figures (opposite page 122)

PROPER STUDY OF DREAMS DOES NOT REQUIRE DELIBERATE INSTIGATION

The detection of the real cue or cues is rarely simplified by the fact that the experimenter himself has applied a stimulus to the dreamer. For there always remains the possibility that the dream that is recorded is the reaction to a totally different stimulus, uncontrolled by the experimenter; or the reaction may flow from any one of innumerable facilitations of memory due to a recency effect, also uncontrolled by the experimental layout. In any case, the deliberate provocation of a thing called a dream raises a different kind of question from that which is entailed by the occurrence of natural dreams; for, natural dreams are the ones that are presented to the scientist and to the layman as having constituted the real puzzle of onirocritics, for thousands of years.

On the whole, the name of "experiment" is too easily taken in vain when connected with the study of dreams; and experiment, at its best, should be only a term for a simplified opportunity to observe the relation between an antecedent and a consequent as established through a causal connection that can be traced. But the conditions for simplification of the mental situation of a dreamer are not easily fulfilled. And even if they were attained, as a preliminary to an experiment in stimulus and reaction, there is a great danger that the experimenter will fasten his mind too exclusively on the stimuli that he brings to bear upon the dreamer.

In our experience, we find that the layout of the experiment is apt to be noted subconsciously by the dreamer and that his attitude in responding to the stimulus may be utterly changed by the knowledge that an experiment is in progress; thus, unwitting interferences on the part of the experimenter alter the situation he wishes to study and change it from what it would be if the dreams naturally or adventitiously occurred.

True experimentation in the field of onirocritics is setting a net for illuminating facts to wander into its meshes and be trapped. Bearing this intention in mind and dwelling less on the formalism of the laboratory layout, we can study dreams in a manner deserving to be called experimental, even though there is no provision for applying a stimulus with the purpose of instigating a dream. In fact, it is only by disregarding this

technique of planned experimental stimulation that we can obtain any true light on the dream mechanism. Yet, following the natural method with satisfactory results for years, I have been constantly stirred to doubt my own work by the queries of laboratory-minded persons who seemed to be possessed with the idea that the much-vaunted and (I think, much abused) experimental method should entail some sort of interference with the dreamer as part of the conduct and layout of the experiment. Had I bound the foot or the hand of the subject *à la* Mourly Vold, had I tickled his nose with a feather, had I opened a bottle of perfume in his presence . . . ?

Somewhat ashamed of my simplicity, I was obliged for years to say that I had carefully abstained from any of these things. I explained it by saying that my inquiry was pre-experimental and that my object was to bring out the fact that the experimental features of dream study do not lie where one might expect to find them, if one argued from mere analogy with the ordinary type of physiological experiments. And this viewpoint has justified itself in the sight of all my close collaborators.

§3. The Use of Circumstantial Evidence

Our own approach deserves to be called a collection of natural experiments in dreams. Hundreds of dreamers were studied and examples of their phantasies were collected in such a way as to show that most of the advantages claimed for laboratory methods of experiment can be reaped from dreams culled as opportunity affords better than by set experiment.

Dispensing with the fallacious hope of the direct experimental observation of dreams, we have used the more valid forms of circumstantial evidence to reconstitute the course of a dreamer's fancy. This has frequently been accomplished with such logical demonstrations as to place the meaning of the given dream beyond peradventure. This endeavor involves what may be called "detective devices," which may be named as the Inventorial Technique, the Reconstitutive Method and the Zadig Test. [Cf. references earmarked (**)]

The method of reconstitution exhibits the past associative

WIDE RANGE OF DREAMER'S MENTAL LIFE REQUIRES OBSERVATION BY DETECTIVE METHODS

relationships between cue and recall. The dream imagery is presented for elucidation by the drawing up of a careful inventory of all the items in the dream that can call for specific explanation. This experimentation belongs to the logical order of the reconstitution of crimes in French jurisprudence. In each instance, it is a case of finding where the cap fits. Geology and paleontology use the same devices. The layout and procedure consist in affording facilities for gathering circumstantial evidence concerning the individual mentality and its life as an entirety, even to the point of shadowing the person day by day. In checking up the stimuli playing upon that person one proceeds as concretely as one might study a bird in a cage. But the actual carrying out of such a scheme shows the baffling range of the dreaming mind and emphasizes the fallaciousness of the hope that one may solve a dream through a narrow experiment. In many instances, journeys of hundreds of miles have been necessary in order to check up the incitements and probable cue-giving characteristics of certain memories operating in the offerings of the dreamer. Often, the most elaborate study of the home environment of a dreamer has been necessary in order to connect up a series of absurd dreams with the actual situation to which the dreamer was responding mentally in the course of phantasy.

In this way, we have been able, in hundreds of cases, to show a co-relation between each and every item of a dream and some definite weaving of human motive and purpose in the daily life of the individual.

When the general relations of dreaming to the personal life of individuals shall have been made clear as to their laws and processes, then only will it be time to look for fresh illumination from dreams produced for experiment in the narrower sense of that term.

Meantime, the detection of the significance of the dream must depend upon a certain kind of skill, and it cannot as yet be said that the attempt at interpreting a dream is on a quantity production basis or governed by any sure-fire or fool-proof device. In this respect, our work does not really go against the ideal of laboratory practice; for even there, the ability to

EXPERIMENTER MUST BE PREPARED TO TAKE ADVANTAGE OF EPHEMERAL CLUES

develop skill in experimenting counts in the validity of the results obtained. Yet there is a suspicion that a thing that depends on the skill or the knack of the experimenter hinges to that extent somewhat insecurely upon the foundations of eternal truth.

Skill in detecting the circumstances of dreaming should retain its place of importance. There are innumerable technical operations in all sciences, the practice of which seems incredible until they are perfected. In fixing the evidence for trains of thought, through dream analysis, the onirologist is in a situation where a certain knack is as essential to him as to a mariner. He meets an emergency in which a certain linkage of thought has to be skillfully made sure of or else the opportunity is gone forever; so the mariner ties a knot to hold tight in a certain way and to secure a certain piece of marine apparatus on the now-or-never principle, when the ropes are slipping through his fingers. In other fields, for instance, in operative surgery and physiological experiment, these opportunistic achievements are not despised as lacking in scientific validity. Why should not the student of dreams be allowed to rely upon a correspondingly opportunistic exercise of his ingenuity when surrounding his observation of sleep phenomena with circumstantially valid evidence as to the origin and course of that involved train of thought which we call the dream?

§4. Cue and Recall in a Somatic Dream

How inclination, study, opportunity and fortunate accident played a part in bringing certain dream mechanisms to light must now be sketched.

The present investigation, of which I am trying to give a conspectus, may be said to have started on a tentative phase in 1896. Yet it is difficult to say at what point an individual begins to gather his thoughts and to direct his line of work in such a manner as to advance toward the comprehension of some particular unit of investigation. In this instance, it would be possible to trace, for many years before 1896, a development of interest by studies along the line of Galton's

PRESENT INVESTIGATION NOT GOVERNED BY FREUDIAN DOCTRINES OF SEX SYMBOLISM

imagery and number forms.[6] The problem was sensed from early childhood by the experience of vague fancies that challenged explanation as normal phenomena of recollection; such were the illusions of having lived before and the dreams that seemed to go behind such knowledge of daily life as the parent or the nurse could supply. On the whole, however, the first intensive interest in dreams could be assigned to the year 1896 when I began making very definite records and a detailed attempt to explain the thought linkages. In particular, I may cite one dream of 1899 which foreshadowed the sort of explanation that I have since found of import equal to anything that has been presented to me through intimate contact with the psychoanalytic movement, up to the present time.

The dream was as follows:

I was walking through the streets of a place that I knew vaguely to be in the Klondike. I could identify this place because it was a very dismal, deserted sort of a village, with only one main street, and all the houses were charred remnants, over which a dismal drizzling rain poured down, extinguishing the last vestiges of the fire. I had read, not long before, that some village in the Klondike (Dawson) had been visited by a conflagration and that the arrival of rain had been of some assistance. This corresponded more or less accurately with the feeling of recognition I had in the dream. *Then I wandered out of the town in the drizzle, which seemed to become less noticeable. As I reached the outskirts, I entered upon a somewhat rounded or convex and somewhat circular or oval plateau with an earthy floor that was pinkish in hue. At the center of this arena, there stood, on the end of a long stem, a Sèvres china cup with a golden border. After looking with curiosity into the interior of this cup, I then proceeded to the rim of this plateau, where there was a slight rise of wooded land, and continued through the woods to a point where there was a cliff. From this cliff there fell a rapid stream, recalling some streams I had seen in Switzerland as a child, and beyond it there stretched a valley with steep mountains on either side. The swift current ended in a cascade and cataract rolling down*

MICTURITION DREAM ILLUSTRATES POSSIBILITY OF UNDUE SEXUAL INTERPRETATIONS

the cliff and disappearing from view. But there were two men absurdly standing at the edge of the torrent or cataract, each intently fishing with a long pole, one below the other.

This is the sort of dream that is interpreted by Freud as "symbolizing" the contours of the body, and as depicting the genital regions. As a matter of fact, this interpretation is not utterly out of keeping with that which I would give; but there is a fundamental difference at the start which indicates in what manner the investigation of Freud and my own investigation have diverged. In the first place, I had every reason to believe that the physical contour of the soft clay and so on represented my own perceptions and thoughts of body surface in the reclining position while asleep. The wooded land and the cataract speak for themselves as reflections of the physical tensions and the mental anticipations of micturition. As Aristotle says, this is without difficulty perceived on awaking.

Each item in such a phantasy can be concretely traced. The color yellow pertains to waking memories of the bodily secretion. It is a color image ancillary to the abdominal experience. The psychoanalytic theory about gold and excretions being identified is merely silly. I have contended in many pages of print (**) that this is not a case of symbolization out of whole cloth. It is not due to any archaic memories or thought but it is a form of mal-apperception in reacting to immediate sensations motivated by curiosity as to the abdominal (bladder) contents; further, it has no sexual character except in so far as we gratuitously import the idea that things which are connected anatomically within one's physical frame cannot be thought of in separate contexts. The imagery is a "subrogation" for sensations of the body, and is wholly suggestive of micturition and is to be viewed as contributory to a sleeping "effort" to deal with that impulse. Attaching significance to the incidental associated genital structures drawn into the allegorical picture is wholly beside the point. There is no sexual orientation in the dream. The theoretical views of Freud regarding sex symbolism in such instances as these rest upon a quibble which takes an unfair advantage of the ambiguity of function in the urogenital territory.

TECHNIQUE OF MAKING DREAM INVENTORY HAS BEEN STANDARDIZED BY EXPERIMENTAL WORK

Nevertheless, so great was the influence of Freud's symbolism *à outrance* in the first decade of the 20th Century, that I set little value upon my own studies in dream interpretation until, by degrees, certain evidences contrary to Freud's theory of dreams reached their climax in 1909, through my studies in levitation dreams.

§5. Development of Detective Devices

It should now be sketched how the technical approach to the dream problem developed from 1900 to 1910 and finally led to an absorbing re-examination of the theories that began to be circulated in 1910 through the Psychoanalytic Society of New York.

In 1900, at the Columbia Summer School, I had taken courses in genetic psychology (Thorndike) and child study, none of which dealt with dreams or betrayed any possibility that this might become a University subject. It was not until 1902 that the pull of interest in dreams reasserted itself in the course of an attempt that I made to study the mechanisms of wit, humor and absurdity in Lewis Carroll's *Adventures of Alice in Wonderland.* I set out to explain the apparently inimitable characteristics of quaintness and farcicality, treating the chapters by inventorial analysis as if they were dreams. The itemization was made with reference not only to the obvious elements of stage setting, *dramatis personae* and stage properties, but especially in respect to the situations and the emotional tone; finally, I allowed space in this inventorial analysis for what I thought would prove to be the crux of the fascination of *Alice in Wonderland* with young and old, namely, the peculiar violations of logic, the contradictions and the plays upon hidden trains of thought.

Shortly after that beginning, my attention was claimed by an important project in the field of intellectual coöperation in which I was invited to participate to the extent of becoming chief clerk to Doctor Frederick William Holls in carrying on with the plans for the St. Louis Congress of Arts and Sciences. In this scheme, it was planned to give an important position to the relations of the sciences, on which I had been

NUMEROUS INFLUENCES GUIDED THIS RESEARCH TOWARD THE STUDY OF GRADATIONS OF ATTENTION

at work for some time with Dr. Holls. For psychology particularly an effort was made to give it the position that was its due. In this work Dr. Holls was warmly seconded by Professor Muensterberg. Although this collaboration again sidetracked the investigation of dreams until the sudden death of Dr. Holls, yet I found that it had widened my understanding of the branches of psychology that seemed fundamental in paving the way for a solution of the dream problem. Many apparently aimless and futile studies pursued from 1904 to 1907 have revealed themselves as essential to the new orientation that I needed for an approach to the dream problem as a biological question.

Up to 1904, I had been inevitably absorbed in the program of social psychology inaugurated in 1900 by Dr. Holls. After his death, I made industrial psychology a special occupation for some years, crude though the beginnings of it were in those days.

To sustain my interest in this work, I found it useful to return in thought to many of the psychological problems that I had learned about at Columbia under Thorndike and Butler and at Harvard when in contact with William James and George Herbert Palmer and Muensterberg. The problem of the "state called interest" had been stimulated by some work reported to Dr. Holls by his friend, Muensterberg, especially in connection with the writings of Ethel Puffer. In leisure hours, I attempted an unprejudiced approach to the problem. For this purpose, I reverted to a device of observation that I had been familiar with in Europe years before, in the so-called *leçons de choses,* so familiar to pupils in French elementary schools and which antedate the kindergarten methods. For instance, I engaged in the practice nearly every day for many months of picking up a piece of coal for intensive observation, which I would carry out wherever I happened to be, in the mid-west coal fields, at a railroad station or on the train. I made it a point to check up my own states of attention and to see how the periods of observation could be managed to produce the maximum economy of attention in the grasp of the qualities of the object. This was extended to persons whom

EXPERIMENTATION WITH OBJECT LESSONS BROUGHT OUT PECULIARITIES OF PASSIVE STATES

I found well-disposed to practice such observations upon various objects. In this development, I had occasion to study the relation of normal attention to the various degrees of fascination that were exhibited in these experiments and that are considered to be involved in the so-called hypnotic state.

In 1905, this line of inquiry into fascination and hypnotism led me to feel that I had come upon a proper mode of approaching an elucidation of the difference between hypnotic fascination and normal attention. By choosing bright objects such as jewelry and cut-crystal ornaments as gaze-objects and by developing a line of conversation about the properties of these interesting trinkets, entitled "The Power of Gems", I obtained a series of introspective reports on feelings of attention. After grading and classifying them, I soon began to feel at home in distinguishing between the biological inducements to passive attention and to active attention respectively. My purpose in proceeding in this way was to detach myself, as much as possible, from the preconceptions of orthodox teaching on hypnotism. This had stood in the way of my progress, as I had found years before, when I had attempted to interest psychologists and physicians in a more intensively biological approach to the problem of personality. Broadening out from the study of "fascination," I duplicated in some ways the esthetic studies that were being pursued at that time at Harvard, such as those of "preferred arrangements" which I applied to beads, made of coral, ivory, glass and curiously colored minerals. Incidentally, my subjects and I obtained striking effects productive of a calm and satisfying state of attention; this being found especially closely connected with the esthetic attitude that is now being spoken of as *empathy.* Prolonging these studies by various devices, we came upon a state of detachment of a description corresponding to William James' so-called *non-thinking level.* (Cf. his *Talks to Teachers,* 1900.)

On a trip to Europe in 1907, when I had the leisure to make use of the artistic material available in London and Paris, I came to realize more vividly than ever before the esthetic aspect of attention states and attempted to arrange

STUDY OF THE TRANSITION BETWEEN SLEEPING AND WAKING BECOMES INCREASINGLY ENLIGHTENING

them in a sort of a spectrum from waking to sleeping, especially attempting to make the spectrum as "pure" as possible. To assist in this work, on my return to America, I decided to equip the office, which I had for years maintained to further the purposes of the Cartesian Research, in a manner to become a sort of laboratory for observing the states of attention intermediate between sleeping and waking.

I regarded this study as important at that time because I had been impressed with the truth of a statement made by Baldwin in his Dictionary to the effect that the study of dreams waited upon a study of sleep. Yet some authors have been waiting for the mystery of sleep to be plumbed by the study of dreams! Too few have attempted to cut the circle of confusion by a careful observation of the transition period wherein the organism passes by degrees from sleeping fancy to waking thought. This is what I undertook from 1907 to 1910, urged on by the need to end in my own mind a confusion about the nature of the "sleep" called hypnotic and to evaluate the claims of various authors regarding "special" states of hypnotism.

§6. Utilization of Passive States

Reverting, then, to my long-standing interest in sleep and dreams, I began my investigation from the standpoint of DesCartes, who, when astronomy was in dire confusion, said that he wished someone would write a description of the heavens without introducing a single hypothesis. At this time, I undertook to observe sleep and dreams in the most naïve manner possible.

The quarters referred to, adjoining the Law Library of the Illinois Wesleyan University, shared with it the detached wing of an office building, and appeared to be ideal for a combined study of sleep and dreams. The atmosphere was simply that of a quiet, retired, and, at the same time, not too silent or too isolated office suite, one room of which was turned into a student's "den". I invited certain friends to visit me for the purpose of indulging in experimental siestas when it suited them, and lulled them to ease or sleep by devices of a purposely

EXPERIMENTAL SIESTAS LEND THEMSELVES TO DEFINITE TECHNICAL ANALYSIS OF SOMNOTIC STATES

casual character, such as my reading aloud Keats' Ode to a Grecian Urn or the playing of phonographic music from an adjoining room over a telephone comfortably adjusted near the subject's ear.

This naïve study of going-to-sleep and waking-up was carried out more and more systematically as opportunity revealed the merit of this or that mode of inducting subjects into and out of repose (with or without sleep) by the use of music, or reading aloud, or conversation.

The essential incentives to such repose consisted in the following:

1. The presence of a quiet, restful "atmosphere", in a study especially fitted, with "relaxation" as the end in view.
2. A preparatory understanding with the subject that he was willing and able to take "half an hour off".

The room could be silenced to any necessary degree, a cork floor having been installed in the adjoining room and the possibility of distracting noises having been laboriously eliminated from that part of the building. Concealed ventilating ducts operated by fans that could be controlled by electricity from other rooms, eliminated confusion in managing the air and heat supply while, at the same time, the pleasant droning and buzzing of the fans could be used to favor the sleeping state, and to wake the subject gradually at the conclusion of the experimental siesta.

It was found that, under these circumstances, a recuperative, anti-fatigue condition was produced which could be carried to the level of physiological sleep while still the subject remained in a perfectly conscious state of passive attention. When later he lapsed into sleep under these conditions, a complete cessation of conscious processes seemed to occur, and there was a striking absence of dreams. Particularly remarkable was the gradual character of the awakening even on verbal prompting to that effect over the special telephone line above alluded to. Sometimes the subject's sleep was so perfect that he would be in apparently complete unconsciousness for as long as twenty minutes and would wake gradually without having shown any perception or realization of the fact that

STUDY OF SOMNOTIC TRANSITION REVEALS A SPECIAL PASSIVE STATE CALLED ACOPIC

time had passed or that he had been asleep. On other occasions, under somewhat similar conditions, he would greatly over-estimate the time that had passed, provided, of course, that he had realized having been asleep. The most striking feature of the awakening was the appearance of entire refreshment and the absence of the slightest indication of being sleepy or of having been asleep. This sleep often appeared self-limiting as if timed by a need of recuperation, whence I called it *Acopic,* meaning, according to the Greek roots, an anti-fatigue condition. This acopic feature loomed larger as the experiments progressed and abundantly justified the use of the distinctive term. The recuperative feature was, of course, noticeable mainly in those cases where the going-to-sleep had been equable and satisfactory, as when the subject would fall asleep without snoring or taking up any of his usual "sleep-habits". While coming awake, subjects in this characteristic physiological condition would perfectly recognize their environment, behaving with the precision and relevancy of a wide-awake person and proceeding to converse exactly as if there had been no interruption. The results shown in our records of the siestas still appear sufficiently novel today to call for a separate series of reports comparable in extent to the present disquisition on dreams. My object in speaking briefly here of these somnotic experiments is to sketch the context out of which the special technique for the elucidation of dreams presently was developed.

Noteworthy in the technique as finally perfected was the avoidance of hypnotic fascination; and striking in the results was the absence of the characteristics of *dissociation,* which usually forms part of the picture of hypnosis. The siestas represented sleep management and prolongation of the predormitium. The somnotic control was carried to the point of making the going-to-sleep process so slow and deliberate and so relaxing that a dreamless sleep repeatedly and regularly ensued upon a successful and satisfying experimental siesta. An unmistakable state of mental detachment would ensue even if the actual siesta was not carried to actual sleep, while yet maintained as an arm-chair rest in the mid-state of attention.

Then the subject would go home and lie down and the deep sleep would readily come upon him. This impressed me finally as not due to post-hypnotic suggestion or the like but as an outcome of a normal somnotic preparation, the significance of which had not received its due in the scientific literature of sleep and dreams. It was always produced without abrogating the voluntary powers, which seemed to be so completely retained as to be clarified in the outcome of the siesta.

Prolonged use of this technique on about one hundred subjects resulted in giving remarkable side-lights on the nature and formation of flying dreams; for illusions of floating punctuated the siestas. The illumination obtained in this way by the investigator was due to two things: (1) catching the dreams in the making, as it were and (2) multiplying the resources of "ordinary"—i.e., non-instrumental—observation upon the peculiar stigmata of the state between sleeping and waking. These stigmata included physiological facts ascertainable both by inspection, such as somnolence and rate of breathing, and by report, such as those of vasomotor changes, like hot and cold sensations, swelling of feet in shoes or the reverse. On the psychic side, we studied the response to different types of reading matter and to varied styles of conversation about trinkets selected for object lessons or about the impressions of the rest situation as such.

It was in 1909 that I completed these simple experiments with gradual awakenings, and that I came to suspect what a resource for the investigator of sleep and dreams the slowing down of the somnotic transition would prove. I may say that I compared it at the time to the study of the horse's trot. As the rapidity of the horse's leg motions obscure to the eye the natural difference between trot and gallop, so does the failure to space out and slow up the process of going to sleep and of waking up obscure the distinction between sleeping and waking. Fortunately, unlike the gaits of a horse, sleep events can be controlled in their tempo and do not positively require instruments for accurate detection.

The definiteness of the phenomena led me to compare notes with Boris Sidis and Morton Prince as to whether the

ACOPIC STATE PROVES TO BE AN OCCASION OF ILLUSIONS OF FLOATING AND OF LEVITATION

phenomenon that I found most notable might belong to the hypnoidal state that they were particularly observing in 1909. (Cf. Sidis' *Experimental Study of Sleep,* Journ. Abn. Psy., 1909.) But the hypnoid state lacked the *fixity* of the acopic.

Some of the experiences attained in the experimental siestas as later outlined (1912) to Dr. Prince, were found to correspond very curiously with the accounts of certain contributors to the Atlantic Monthly as published in 1914 under the title "Twenty Minutes of Reality".

To develop the conclusions as slowly as due presentation of the evidence would require, might drag out this statement unconscionably.

To make a long story short, the experimental study that I have crudely described brought out the mechanism of what I may speak of as the floating sensation or, more precisely, the induction of an illusion of soaring or levitating similar to, if not identical with, that which is found to be so characteristically present in the dreams of flying or levitation. Of these dreams, as also of the experimental siestas, I made a description in three papers on Levitation Dreams published in the Journal of Abnormal Psychology. (* *)

§7. The Vivarium Mode of Study

The realization that I had come across a principle contributory to the understanding of at least one kind of dream, led me to look for greater refinements of technique than I was able to provide in my present quarters or than I could obtain from the universities nearby. I felt the need to sense the trend of the most advanced studies in sleep and dreams before my investigation could be oriented satisfactorily in the great sea of speculative onirocritics, which has been navigated for thousands of years rather fruitlessly by many famous philosophers. Therefore, I went to several eastern universities to find out what was known on the subject of sleep in particular.

It proved that sufficiently original results had accumulated from these studies in the Middle West to justify me in developing them further. Therefore, I enrolled in special

PROBLEM INVOLVED IN REST SITUATION REQUIRES MORE WIDELY EMBRACING BIOLOGIC APPROACH

courses at the Medical School of Columbia University and in the Department of Psychology, with a view to recasting my observations in the form of a thesis. I proceeded to get rid of home-made phraseology and to state my findings in terms of the standardized scientific vocabulary. Very little encouragement was promised for the work I proposed, and the principal incentive at Columbia lay in a rather severely experimental atmosphere in the Department of Psychology. This was a steadying influence, which proved harmonious with the attitude of the Department of Physiology. I owe a debt of gratitude to Dr. Frederick Schiller Lee for inducing me to begin the study of physiology from its foundations in the laboratory. Under the influence of his most inspiring viewpoint, I obtained a renewal of my enthusiasm for a strictly biologic approach. I am also indebted to Dr. Burton-Opitz for seconding in Dr. Lee's spirit, my studies of those unusual physiological phenomena that are too often neglected because not accessible to the ordinary operating-table observer. Of the research in sleep begun under these auspices and continued for ten years or more, very little has been published in my papers. The reason for this is that I encountered, among scientists here and there, a conviction, disquieting to me, that the whole subject was not yet susceptible of scientific treatment. The dilemma was that I had to choose between a distasteful application of the laboratory technique most approved by my fellow-workers, though unsuited to my problem, and the appearance of posing as a pioneer in developing a new viewpoint prematurely. In other words, my reason for not going into formal details before now is that no laboratory technique actually existed to match the one that I relied upon in the course of exploring various situations wherein sleep and dreams could be studied.

It is only very recently that any author closely identified with the world in which psychologists live, move and have their being, has enunciated anything like a commendable criterion for the investigation of dreams. As it happens, this enunciation (on the part of Professor Knight Dunlap) did not take shape until the summary of my Trial and Error

PROPER STANDARD FOR STUDY OF SLEEP AND DREAMS HAS ONLY LATELY INTERESTED PSYCHOLOGICAL CIRCLES

Theory of Dreams had been published in the Journal of Abnormal Psychology, September, 1921. It was the sequel of ten other papers leading up to the full formulation. In that issue of the Journal, Professor Knight Dunlap wrote significantly as follows:

In the first sentence, he says: "Sleep is still a great mystery." The last paragraph, however, strikes at the root of the matter: "The valid and thorough interpretation of dreams, aside from a few simple types, is a technique which must await the completion of a great deal of experimental research. The extent to which our present knowledge of dream phenomena depends on experiments, in spite of the fewness of these experiments, is striking, and is a strong indication that further experimentation will be really profitable. The fact that very little experimental work has been done since the publication of Mourly Vold's monograph in 1896, may be due in part to the withdrawal of interest from experimental research in this field through the influence of Freudian theories; but it is certainly largely due to the extreme difficulty which the field offers to experimental technique, and to the great expense which would attend any comprehensive investigation. It is to be hoped that some time, some philognostic foundation will provide funds for the maintenance of a special laboratory or vivarium in which human subjects can be kept for a sufficient period of time under standardized conditions, and in which an adequate corps of psychologists and physiologists can be maintained for the extended study of sleep and dreams."

The mention of the names of Mourly Vold and of Freud as outstanding figures is indeed very suggestive of the barren situation confronting me at the beginning of the investigation and particularly descriptive of the landmarks in the university phase that began after my visit of inquiry to the eastern universities in 1909.

Mourly Vold's method may be said to represent the extreme of scientific objectivism. Freud's work may be said to represent the contrary or opposite extreme of exuberant subjectivism. These are the Scylla and Charybdis that flanked me at the start of the new phase of investigation.

ELABORATION OF EXPERIMENTAL TECHNIQUE MAY EASILY OUTSTRIP ITS BIOLOGICAL SIGNIFICANCE

In 1910, the only orientation I had of a positive nature was my tentative explanation of the flying dream, a subject which neither Vold nor Freud appeared to have understood, both having succumbed to pre-conceptions on the subject. In the attempt to navigate beyond this point, between the two extremes represented by Vold and Freud, my collaborators and I have been certainly able to verify the statement of Knight Dunlap that this field offers supreme difficulty to the experimental approach. This is the intellectual difficulty. But we have also found it unfortunately true of the technique, as Dr. Dunlap says, that there is a great expense attending its comprehensive fulfilment.

Dr. Dunlap's colleagues in the field of psychological teaching will probably agree with his statement as a whole. It is a question, however, whether the concluding sentence of the excerpt would be viewed as entirely practical in its suggestion. There might be a little hemming and hawing, perhaps, about a special laboratory or vivarium in which human subjects could be kept for a sufficient time under standardized conditions. In some ways, his suggestion seems threateningly elaborate. In any case, our own experience shows that what one might, in advance, suppose to be "an adequate corps of psychologists and physiologists" contributes more to the atmosphere of scientific security than it does to the obtaining of significant data. The presence of too many persons and of elaborate apparatus develops an atmosphere of artificiality which is not favorable to the occurrence of valid phenomena in the function of dreaming.

Our investigation permits us to furnish a somewhat definite answer as to the extent to which the vivarium principle can be applied. Psychophysiological tests quickly reached the point of diminishing returns; but the yield from closely recording the dreamer's daily life proved relatively unlimited.

§8. Refinements of the Rest State

All I needed to illuminate my theory of flying dreams, as developed in 1909, was to add the means of accurate physiolog-

ical study during experimental siestas by the use of a laboratory layout where breathing, pulse and respiration could be recorded with certainty. The University Catalogues had led me to suppose that the equipment for the study of these functions would include some sort of restful room. When I explained my errand at a certain university and asked for the privilege of seeing the equipment, I was conducted by a professor to a very large and technically satisfying sound-proof room with black walls. My mid-western experience in fitting up a thoroughly satisfactory and congenial rest room for experimental siestas made the sight of this dungeon rather appalling by contrast. It was not long before I, sitting in the room alone and hearing my own heart beating, realized that a dreamer or sleeper under these conditions would be utterly at sea, would feel like a cat in a strange garret and would not be able to develop experimental sleep of a representative character. I realized then and there that these are not the conditions under which somnotic investigation could be made effective in any broad sense. To be sure, this sound-proof room, constructed for alternative use in optical work, represented an extreme case of formalism of the laboratory; yet the disadvantages that it demonstrated are likely to attach themselves to any experiment room unless it is constructed with the most careful combination of comfort, artistry and mechanical conveniences. What is more, a proper vivarium "atmosphere" is not to be had for the asking; or by command of a Croesus. "Atmosphere" and its effect on repose, on respiration, on bloodvessel tension and the like form part of the investigation of situation and response, of appetite and satisfaction in the twin problem of sleeping and dreaming.

It seems almost as if naturalness and casualness, which are the settings in which sleep and dreams, after all, find their place in nature, were more important in establishing experimental siestas than the usual equipment of the ultra-objectivistic kind. It may be all very well to decry that non-experimental observation which leads to "anecdotalism", as I used to hear Thorndike do in 1900 at Columbia, but there is such a thing as going in too heavily for the severe exclusiveness of

SLEEP AND DREAMS NOT BEING PERFORMANCES IN WAKING SENSE REQUIRE CASUAL OR FAMILIAR SETTINGS

a laboratory of physics, and thus killing the very things that Nature has to offer in the domain of casual, unartificial and inconsequential behavior, to which sleep and dreams are by nature allied.

In 1910, there seemed to be no proper place in the field of psychology for the science of strictly casual states. Not forgotten by the psychological staff were Francis Galton's simple tabulations of the memories of his breakfast-table observations; but the easy-going atmosphere in which he did his suggestive work had been harshly wiped out. The psychologists, I found, had rushed to rival the astronomical laboratory or the cableroom in a telephone wire chief's office, without attaining to anything like an adequate vivarium for observations of the subtler states of mind. Intimately familiar as I was with the technical refinements of dynamometer cars and other devices for studying prime movers like steam engines and boilers, I found myself wholly deceived in the hopes I had entertained that a laboratory existed where Man could be studied with due regard for all aspects of performance, a type of consideration that I had personally experienced as realized in the study of locomotives.

By a happy accident, it was in the Department of Physiology of the Medical School that I found the means of continuing the somnotic studies. There the atmosphere of the rooms adjoining the reading cabinet enabled me to combine somnotic observations with kymograph records in a way I would not find it easy to repeat even in the most pretentious layout of the vivarium type, as sketched by Dr. Dunlap.

I was able to perform these somnotic experiments right on 59th. Street, in a room from which one could not exclude the rumbles of carts on the cobblestones. This requires very little explanation, because this supposable drawback was simply enough offset by preparing the mind of the subject to adapt himself to a pleasant state of indifference based upon certain other qualities of the place that favored a philosophic understanding of the non-importance of any sounds that might penetrate from outside sources. Later, I will refer to this offsetting as part of a procedure called "pre-resolution". The fact

to be conveyed is that I isolated or cushioned the working of those external stimuli by adjusting the subject's neuro-capacities to react neutrally to the rumblings from the street. This was possible largely because of the general atmosphere of the laboratory of Physiology.

My subjects sensed the quiet atmosphere of internal peace attached to the cabinet of Physiology and to the neighboring laboratory rooms which, so fortunately, were still uncrowded by apparatus. It was in the larger of these rooms that a Ludwig kymograph was set up and conveniently equipped to permit taking pulse, respiration and plethysmographic records of a resting or sleeping subject. Through the courtesy and forbearance of the professors in sustaining the quiet tone of the laboratory, even when passing through the room while experiments were in progress, my subjects were made to feel at ease and I was able to duplicate the peculiar rest states and the floating sensation effect that had given me my line of investigation in 1908 and 1909 when I occupied the ideally established quarters, already mentioned, near the Illinois Wesleyan Law Library.

Almost intangible were the elements that constituted the rest situation in the Department of Physiology. Such subtle things are usually considered beyond analysis, unless it be in the field of the amateur's appreciation for artistic objects or in relation to surroundings especially contrived for artistic productions. Few and far between are those who are able to detect the presence of a reassuring and restful quality in a laboratory formally equipped for animal experimentation and physiological study. One requires a special interest in after-dinner naps to appreciate the opportunity.

There happened to be no feature in this equipment (unless when it became too crowded) to prevent many of the most highly prized "atmospheric" qualities from insinuating themselves into the supposedly austere scientific installation. This repeated and extended reference to the matter is justified by the part it actually played in the disclosure of the meaning of the experimental siestas. For a tabulation of all the conditions that constituted the "atmosphere" would mount up to a

SLEEP IS BEST REGARDED AS A HIGHLY VARIABLE AND ADAPTABLE REACTION TO LEISURE

regular analysis and depiction of the all-essential features of a true sleep situation. In a separate study of sleep, there would be room, which there is not here, to develop the biopsychic earmarks of the sleep situation, especially in relation to what I may describe as the feeling of security—as a powerful sleep inducer. The current of ordinary scientific belief in 1910 was set against sleep-induction as a scientifically definite procedure. While we speak in classes and in seminars yearningly about solving the mystery of sleep, yet the scientist is still in practice as apt as the layman to dismiss all scientific concern for its trivial phases and to regard them as undeserving of analysis when he lays himself down and makes practical use of the mystery. Even the latest announcements of the school of Pavlov * do not, as yet, comprehend the subtler things that make up the sleep situation but treat the matter from the angle of an established reflex, forgetting that sleep, when it is purely reflex is not quite like true sleep, voluntarily induced. And the studies referred to threw light on this very distinction.

Having constructed a special chair with adaptable springs of the most suitable degrees of softness distributed to give support to the frame of the sleeper, in a manner to relax all tensions, I was able to obtain kymographic records of pulse and respiration in the state of so-called cat-naps, including in the record even the slightest stirrings of the subject.

For making the instrumental record of the specialized state of attention, as described in the Journal of Abnormal Psychology, it was found best to hold rehearsals with the subject before the kymograph records were made because they would be meaningless without a standardized subjective report. It was necessary for him, while on the brink of sleep, to be enabled to communicate the subjective report so that it might be co-related with the traces of pulse and breathing on the smoked paper. Therefore, we prepared a terminology and a set of signals to enable us to transfer the reports of the subject. These related to the various stages of sleep, to the sensations of rest and fatigue and to the testimony of subjective

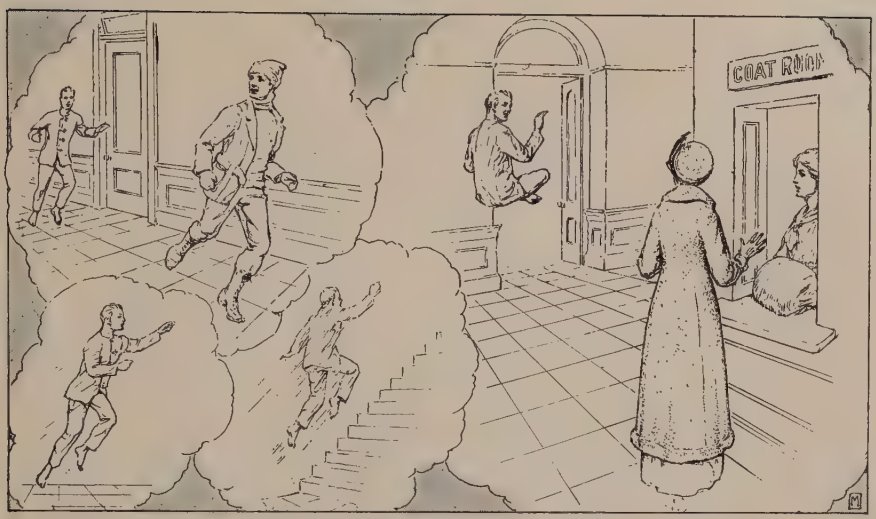
* Article of Pavlov—"Hypnotism, Inhibition and Sleep," Quarterly Journal of Physiology 1923.

changes, including the signs of vasomotion, such as heat over the body and tingling. On the kymograph, a signalling device was arranged whereby the subject could record his answers to questions and, also, spontaneous observations of his own. This facility was secured by mounting a porcupine quill on a buzzer magnet actuated by the slightest pressure upon a telegraph key under the finger of the subject. The oscillation of the quill in contact with the smoked paper made possible a positive form of black and white record varied by a sort of Morse code. In this way, I was able to confirm the general picture of the vasomotor origin of flying dreams and of the sensations of lightness or the like, which I have described in the papers on Levitation Dreams. (**)

§9. Vasomotor Phenomena in Levitation Fancies

The vasomotor phenomena concerned in these dreams were discussed with Dr. M. Allen Starr. He encouraged me to publish a letter I had written to Dr. Prince touching the origin of the sensations of flying and falling in dreams. The letter was published in the Journal of Abnormal Psychology in April, 1918. It was supplemented by other articles adducing certain further observations on the signs given in the dreams of the sensations of vasomotion. My attempt to trace the items of imagery furnished by dreams led to a physiological picture of sympathetic innervation and suprarenal secretion. While necessarily somewhat hypothetical, these intimations have received support from recent researches. For instance, I claimed that the picture corresponding to suprarenal activity was presented in flying dreams when the vasomotion had been elicited by cold, by asphyxia, and, lastly—a feature not yet accepted in principle by physiologists—as a biological reaction against fatigue.

The following quotation indicates the general mode of approach to the dream problem that was established on the basis of my somnotic experiments in connection with flying dreams. The citation points to the departure that I made in the matter of re-examining the problem of dreams in gen-



Levitation Dream Number One

FIG. 13. Dreamer pursues Smith, his warmly clad friend, meanwhile treading cold tiles. An unexpected capacity for soaring motion develops when he leaps up stairway. After this, dreamer levitates, as if sitting on magic carpet, past coatroom, where he waves his right hand at persons engaged in "checking" fur garments

FIG. 14. This picture appeared in the dream as a drawing on the wall at the spot obscured by Smith in Fig. 13. Angry sheik, desert sand, warm clothing, animation of horse, shaking of rider's forearm are all annunciators of neuro signals set off by a suprarenal-sympathetic crisis, in response to chill. The sensations of cold and need of covering are reflected in the saddle blankets and garments of the caravan

Fig. 15. Levitation Dream Number Two

Figs. 15 and 16. Both dream-pictures contain characteristic images (i. e., mal-apperceptions) reflecting the bodily state during sleep. In both cases, the course of the phantasy of levitation is modified by sensations obtained from the foot. This lends particular interest to these two examples as traversing the conception of Ellis and other writers to the effect that aviation in dreams takes its start from the absence of foot sensations. It will be seen from the pictures that the idea of levitation or lightness may exist coincidently with foot sensations. Our data show that some generalized bodily sensation is the essential determinant of the flying dream. Yet foot sensations may affect the degree of the sense of detachment from earthly contacts; or be translated into hand perceptions. In each dream, the second scene represents the *pied-à-terre*, or, literally as we might say, the better-grounded perception of the foot sensations. In dream No. 2, a hot-water bottle is fancifully apperceived as a dog; in dream No 3, the pressure of the blanket is reflected as a limitation of movement. Note that there is (a) attachment to a pedestal, (b) an impedance from a robe or blanket when running after a street car, of which (c) the steps and running gear are embarrassed by grotesquely heavy fenders. In both dreams, vehicles and other images reflect disturbances of circulation. In No. 3, the rhythm of the heart is reflected in a staircase; in No. 2, the rhythm of the blood-vessel sensations is reflected in the sinuosities of the parkway. These two kinds of annunciators of circulatory rhythm may be looked for in all dreams of the levitation type

Fig. 16. Levitation Dream Number Three

eral and in criticizing the somewhat premature formulations of Freud:

"The mental aspects, however trivial, of the illusion of levitation as it may occur in sleep or even outside of sleep, are taken up in detail. These features are listed after the fashion of Bertillonage, as a sort of 'detective' investigation. This is a hark-back to the method preconized originally by Aristotle:—the object is to use the fanciful ideas supplied by the mental aspect, as a means of trailing the phenomena (levitation dream or illusion) back to corresponding physiological mechanisms operating within the subject himself."

The device of the deadly parallel between sensory signal and psychic response is here suggested. It lends itself to the destruction of many of Freud's arguments in favor of the sex meaning of dreams.

All the characteristic features of a flying dream are attributable to mechanisms of bio-psychic response that have been slighted or overlooked entirely by the psychoanalysts. To mention one: the frequent occurrence of *staircases* in such dreams is a mental response to the beating of the heart, which itself is only rarely linked with any sex motive in dreams. The euphoria of levitation dreams is equally devoid of any such meaning. Yet this palpable error of psychoanalytic interpretation remains uncorrected.

Observations in the mid-state of attention have served me and many subjects for gathering positive data about the vasomotor nature of levitation dreams. Notable stigmata are the shrinking of the skin, the gooseflesh, the intimation of cold, the drawing-up of the knees, which served to bring into prominence the influence of chill upon dreams. The occurrence of a distinctly agreeable skin-warming sensation is attributable only to vasomotor flushing. One notable feature of my personal observations of such dreams is the fact that sometimes the phase of chill in one part of my body was found to coincide in time with the warming-up phase in another part.

Practically unmistakable indications are obtained from the deadly parallels between the bodily stimulus (whether cold, gooseflesh, heartbeat, or warmth, etc.) and the oniric imagery.

THE ILLUSIONS OF FLYING OR LEVITATION OR FLOATING CAN BE INTROSPECTED IN SEMI-WAKING STATE

Fact and fancy proceed in couple through the course of levitation dreams so that each mental image can be accounted for as a definite psychic reaction annunciating a physiological alteration in the structures governed by the sympathetic nervous system. This tends to put upon the flying dream a different construction than the psychoanalytic one. It takes the explanation over to the somatic side instead of leaving it in the psychic domain of wish fulfilment, in which Freud and some of his followers have tried to hold it. (Coriat, *Meaning of Dreams,* pp. 80-81, 132-135 for flying dreams; pp. 122-123 for dreams of insufficient clothing.)

The work referred to as having been performed in the laboratory of Physiology on 59th Street removed all doubt that flying dreams and levitation dreams were of vasomotor origin and excluded the usual sexual reading. Phenomena of euphoria occurring spontaneously in connection with the mid-state of attention gave an indication of the soil out of which such phantasies as flying, floating or levitation might develop. The floating sensation or illusion was itself frequently demonstrated in experimental acopic siestas without any accompanying disturbance of orientation or of self-recognition. The typical process of relaxation of this induced Acopic State developed the same stigmata that were identified with a state attained through extreme vasomotor reaction to chill in sleep; thus linking the two by the identical earmarks. The mental ecstasy, the circulatory comfort and the respiratory ease that are characteristic of a dream of flying caused by chill survive the phase of illusion and can be, as Aristotle says, "observed, without trouble, on awaking." Thus, the explanation of the flying, floating or levitation dreams became only a question of collating detailed observations on a sufficient number of favorable cases, to link all subjective phenomena with concrete physiological incitements.

It was strictly by inductions of the kind above suggested that I had built up, by 1911, a conception of the "cause" of a flying dream as being a concrete physiological readjustment of the sympathetic nervous system. It amounted to a sort of physiological crisis responsible for the arousal of the typical

flying illusion. But it was not until 1915, after conversations with Dr. W. B. Cannon and after numerous experiences in the hypodermic administration of suprarenalin, that I could describe this crisis in terms conforming to the physiological picture of a neuro-muscular reaction dominated by the Sympathetic. Yet, in 1912, I had been able to detect a certain unity and uniformity as between the reports of flying dreams from ordinary dreamers on the one hand, and the peculiar diagnostic picture of the floating illusion as obtained from laboratory subjects who were in the Acopic state but not immersed in any dream. The general conclusions have been given in my papers in the Journal of Abnormal Psychology for August, 1919 and April, 1920 on the basis of an *as-if* picture, assigning the central rôle to the suprarenal secretion.

In taking a broad view of the occurrence of dreams of the levitation type, I laid claim to pointing out three objective causes apt to be operative in eliciting the subjective phenomena; namely, chill, asphyxia (of a momentary kind) and fatigue. I am glad to say that recent experiments are regarded as leaving now no room for doubt that the first two stimulations actually do induce prompt and effective suprarenal secretion. It remains to be seen whether the laboratory of physiology can bear out the idea of a similar reaction under the stimulus of fatigue or exhaustion.

It is now clear that there exists a concordance between the dream images that succeed each other in the levitation dreams and the series of changes in vasomotion caused by the suprarenal-sympathetic influence. The connection is supported by the deadly parallel, the validity of which in turn rests upon the virtual impossibility of such a parallel being discerned if it were merely an artifact created by the interpreter. This mode of studying the relation between somatic cue and psychic recall constitutes the model on which I developed my first insight into the secret of the dream process. But this beginning would have been impossible, if naïve studies in producing passive attention had not, almost by accident, revealed the "hang together" of particular physiological incitements and the corresponding mental apperceptions

LEVITATION DREAMS EXEMPLIFY VALIDITY OF CASUAL OR DESULTORY OBSERVATIONS ON PART OF SLEEPER

thereof. Without casual or desultory studies, the physiological dreams would never have revealed themselves in detail as the working of cue and recall. It was fortunate that I was able to formulate the levitation dream process in its simpler occurrences very much as one would explain the silhouette of a moving object on a shadow screen. By the practice thus acquired, complex dreams then became analyzable in spite of their confusing configurations; for then, deliberate use of the method served to analyze the overlapping silhouettes into their causative elements.

It may be asked how one would begin to apply this type of investigation to any extensive collection of dreams, including all varieties. In the spirit of DesCartes, we may answer, paraphrasing him: "If you are put to it to know how to rise to the most abstruse conceptions relating to the dream, why! begin with the simplest. Lay hold of what you can and wait for the next thing to come along." Literally, in this way, the rules of DesCartes were applied. The simplest type of observation possible was employed in extending the experiments beyond the sphere of the vasomotor dreams. It is of interest that these dreams tend to produce their own observational setting: after a chill dream one wakens and remains readily in a passive state suited to introspection.

I have said that I was looking for a passage between Scylla and Charybdis. Perhaps Aristotle had found it and recorded his experience sketchily when he says: "One may, without difficulty, perceive this on awaking." Unfortunately, I did not realize how much I could learn from Aristotle at the time when I resumed the work at Columbia. It seemed difficult to think of the Stagirite, trammelled by his antiquated physiology, as having very much to offer on the subject of dreams. For I had no first-hand knowledge of his *Parva Naturalia*, which I have since come greatly to appreciate. But the method that I had experimentally developed brought me to the technique indicated by Aristotle as especially useful.

In exploring the rainbow of sleep states, during the experiments related above, I had become familiar with and had made my subjects familiar with the state most suitable for

"perceiving this on awaking." In this, I refer to a state intermediate between sleep and waking, susceptible of prolongation in a manner that is still not open to the charge of artificiality. In fact, this state, which I have described as a mid-state of attention, seemed to be a natural bio-psychic condition closely allied to the watching state that William James described in 1900 and not very remote from the hypnoidal state that Boris Sidis described in his monograph of 1909. Yet, on comparing notes with Sidis, I found that this mid-state had features of poise, repose and rationality and freedom from suggestibility that have so far not been recognized in the scientific literature as belonging to any one biological condition. In the experimental siestas, I developed this state as a means of exploring both sleep and dreams. To me, at least, this opened a new door of experimentation leading to channels of thought which I followed in a rather shame-faced way for years, because they seemed to have so little to do with the perfunctory laboratory layout that was so much in vogue around 1910. I followed these paths because they represented to me the only way out of confusion. Since then, I have gained the courage of my convictions and I have gone so far as to speak of the *psycholexic* study of dreams as preferable to the psychometric study. This brings into view a sort of bio-psychic Case Method. (Cf. *A Late Harvest,* by Charles W. Eliot, p. 54.)

Mention should be made of the fact that the intermediate state was real enough to be distinctively impressed upon the minds of numerous subjects who experienced it independently under the conditions that I established for its production and who testified to the conviction that it was not a product of suggestion on my part; that is, the mid-state of attention is not an artifact, but a state *sui generis* even more definite than so-called "sleep" itself. One subject was kept in this state as long as an hour and twenty-three minutes continuously while harnessed to the kymograph and still retained his power of observation and introspection but experienced the lethargy and placidity of the deepest sleep. Not only were subjects trained in the maintenance of this condition, but they were also put in the way of discovering it for themselves. Out of a

series of such cases (a hundred or more) a crop of observations was obtained that enabled me to find the passageway between Scylla and Charybdis, between excessive objectivism *à la* Mourly Vold and excessive subjectivism *à la* Freud.

The value of the mid-state was that it tended to a cutting down of the complexity of dreaming and gave a simplified situation that held none the less to its experimental validity.

§10. Neglected Aspects of Somatic Cues

In making a skeptical examination of the psychoanalytic views about dreams, I had (as is now made clear) the advantage of a special preparation in the field of sleep-study. It consisted in a developed facility to lay hold of the intermediate state of attention, as a resource in "perceiving things on awaking." It is this use of a deliberately maintained mid-state of attention that I have already contrasted with Maury's method of sudden arousal.

The data obtained by this mode of observation revealed an unexpected purposiveness in the bio-psychic functioning of the mind of the dreamer. This is placed mistakenly by psychoanalysts in the domain of wish fulfilment attainable by symbolism. The habit of abusing this formula to account for particular dreams has led to what I have described as the Psychoanalytic Dilemma. (**)

In the Freudian system, as it was being expounded through the Psychoanalytic Society in 1910, and as I tested it at the Vanderbilt Clinic, there was an unwholesome detachment from laboratory checks upon the fancy of the dream interpreter. The physicians who then found the psychoanalytic approach so useful in clinical work were largely beginners in psychology, and, under Freudian tuition, readily accepted plausible interpretations for dreams without duly regarding the possible somatic source. Of this, we see a reflection in Coriat's citation of the meaning of the Flying Dream, as signifying a desire to do as one pleases. This is indeed a far-fetched psychic interpretation, but not outstandingly so as compared with many others that were current at the time this investigation was at its height.

DEVICE OF DEADLY PARALLEL GIVES CRITERION OF CAUSE AND EFFECT IN DREAMS

As a subject undergoing dream analysis, I was able to compare intimately the psychoanalytic method with a method of my own dictated by a less uncritical acceptance of superficial analogies.

After having my personal dreams interpreted in the most "convincing" and revelatory style (as judged by the dubious criterion that I was led to "give away" many of my own mental secrets and many of my unconscious wishes) I would go home and work out the real "hang together" of the dream for myself. Often, I found that the important sources of it had been left entirely untouched in the "psychoanalysis" which was apt to slight certain simple somatic incitements. To correct such vagaries of interpretation, one has need of more objectivism and one has to refuse to be cullied by the verisimilitude of the *a priori* meanings that the psychoanalyst learns to confer upon the alleged symbols of the dream. The incompleteness of the psychoanalytic parallels, which are rarely of the "deadly" quality, leaves room for many a spurious co-relation to be slipped in with the aid of *aprioristic* views touching the mind and body relation.

What has already been said about flying or levitation in dreams would of itself sufficiently point to the error in the psychoanalytic theory as a whole, if it were not for the wide range of this theory over a field of study rarely frequented by scientists. Dream life has become known almost exclusively by incursions of clinical workers interested mainly in the mental symptoms of the psychoneuroses, and correspondingly disposed to overlook the—to them—less significant somatic factors.

The Question of Somatic Sources

We come naturally now to consider what are called the somatic sources of the dream. It would be idle to go on speaking of this investigation without stressing the fact that our findings about the somatic sources cannot possibly be reconciled (as regards certain familiar dreams at least) with the views of Freud.

A preliminary comparison of the new principles of inter-

pretation forced on us inductively in this research may usefully be made with certain principles that Freud enunciates in his usual deductive and *aprioristic* manner:

> Undoubtedly the aggregate of bodily feelings is to be included among the commanding dream stimuli which originate internally. Not that it is able to furnish the dream content, but it forces the dream thoughts to make a choice from the material that is destined to serve the purpose of representation in the dream content; it does this by putting within easy reach that part of the material which is suited to its own character, while withholding the other. Moreover, this general feeling, which is left over from the day, is probably connected with the psychic remnants which are significant for the dream.
>
> If somatic sources of excitement occurring during sleep—that is, the sensations of sleep—are not of unusual intensity, they play a part in the formation of dreams similar, in my judgment, to that of the impressions of the day which have remained recent but indifferent.
>
> —p. 201, *The Interpretation of Dreams,* MacMillan, New York, 1911.

In the first of the quoted paragraphs, Freud draws, with commendable subtlety of style, a picture that is essentially the physiologist's notion of *facilitation.*

As we would prefer to state the matter, however, there is a frame of reference in the dream analogous to a "topic of thought" (in the sense of W. James) consisting of three coordinated factors and capable of geometric diagramming; we call these the *principal cue,* the *accessory cue,* and the *facilitations.* In our terms, Freud should be understood as saying that bodily sensations rarely, if ever, (except when unusually pronounced) play the part of principal cue. Our findings are to the contrary; and it would seem that in special cases like that of flying dreams and dreams of insufficient clothing, Freud is hopelessly out of touch with the underlying facts.

Somatic sensations are far more important than he thinks and in these dreams he is putting the psychic cart before the somatic horse. Yet his re-statement of the principle of facilitation in cursive, almost furtive, terms is stimulating and enlivening to our mental visualizing of what sometimes does

happen in the dream process. But the description given by Francis Galton in the allegory of the Antechamber of Consciousness is far more manageable and accurate in explaining this matter of "choice" of imagery in dreams.[7] What is offered as "facilitated" from somatic or psychic sources, and thus comes adventitiously within reach of conscious recall, forms a passive element, while the principal or accessory cue that summons the images from the antechamber into the presence chamber forms the active element. Our subjects demonstrated many times that in deep repose the principal cue may be somatic and may be devoid of any true psychic allegiance to any significant system of thought. It is, as a mere marauder in the psychic realm, yet able to push into the presence chamber an unimportant and truly trivial psychic remainder facilitated by the day's "multitude of business."

All positive statements of Freud to the contrary, difficult as they are to examine in view of his elusive vagueness, must be regarded with suspicion as loose generalizations.

A concrete example will probably serve to make the point clearer as well as to relieve the present strain on the reader's attention. In preparation for the understanding of this sample of somatic dreams, let me recall the fact again that Aristotle has suggested nothing more complicated than taking notice of your dream on awaking and evaluating it in the light of what your observation enables you to absorb at the time, concerning the stimuli from the environment. Aristotle even states that this is wise in those dreams which are the signs of something taking place in the body. Thus, the dreamer becomes, from the laboratory standpoint, the observer as well as the reactor.

To illustrate:

I am waked one morning in my apartment by the arrival of Mr. S. who is acting as my secretary and who comes to my room to start our day's work, which is to be in my living quarters instead of at the office. We have arranged that he shall be ready to take dictation at a moment's notice. Although stirred from sleep by his knock on the door, I deliberately relax back into a lethargic state while observationally

EXAMPLE IS GIVEN OF DREAM WHERE CUE AND RESPONSE COULD BE OBSERVED IN MID-STATE OF ATTENTION

awake. In other words, I manage to keep in the mid-state of attention. This does not prevent me from dictating to him drowsily a dream.

The Dream of the Shepherds

Shepherds are going up and down a whaleback mountain in two one-way traffic lanes, one up, one down; and each shepherd has a woolly lamb in his arms. I describe the mountain from base to top as accurately as possible and then I am startled to recognize that I have almost allegorically described the contours of my own body from the waist right up to the jaw, to which, in conclusion, I had come when speaking of "the overhanging rocks at the top of the mountain."

The traffic lanes proved to be pseudotypes for the parted edges of my fluffy "woollen" pajama jacket. The quotes express my misgivings of the night before as to the quality of wool in these pajamas: for I had been criticizing it as below the standard of lamb's wool. This was the *facilitation* for the sheep range imagery. The positions of the shepherds at intervals on the lanes corresponded to the location of the buttons and buttonholes. These, having parted company, left the chest open to the air. A cool morning breeze brushed the surface of my body, which was thus sensitized over an area corresponding to the mountain-side as dreamed and described. And there was evidently a beginning of a mild somatic reaction, a slight chill, falling short of gooseflesh.

The mid-state of attention enabled me to note without a stir the pre-waking situation of my body and the corresponding lay of the mental landscape. I was able retroactively to account for every item of phantasy right up to the moment when, in my dictation, I reached the astounding certainty that the overhanging rocks I was describing corresponded topographically to the recognition of somatic impressions from my throat and overhanging chin. As a corroborative point, let me cite the fact that the mountainous region involved in this description is that of a remarkable series of hillsides and peaks situated north of Lake Leman and overlooking the

REFINING PARALLEL BETWEEN CUE AND RESPONSE EMPHASIZES THE CONCRETENESS OF CERTAIN STIMULI

Castle of Chillon in Switzerland. The aptness of the dream will be recognized by any traveler familiar with the gently rounded prominences of Mont Caux and with the cliffs above it, called the Rochers de Naye. In childhood, I had frequently climbed these at all seasons and in all weather so that they were intimately associated with the gamut of temperature sensations. Thus does sensation pick out a unit of past experience and frame it into a sort of allegory of the present situation. Yet the reaction of fancy was not of the order of symbolism, in any useful sense of that word. It was strictly mechanistic and of a nature affording a deadly parallel between situation and response, in which the reason for every piece of imagery can be shown, point by point, demonstrating an opportunistic reaction that is a way of dealing with a concrete signal, rather than one dominated by anything approaching conventionalized memory or archaic habit of utterance.

To hold this thought in its proper place, we must make use of a definite language that is regrettably without example in the current literature of stimulus-and-reaction. Even if the omission seems attributable to a philosophic conviction that ultra-mechanistic terms are dangerous to use in things of the mind, I must now make bold to distinguish between two aspects of *stimulus* (or situation) in provoking reaction or response.

Some stimuli act upon the organism as mere physiological tremors; that is, they do not retain enough organization or continuity of registration or self-perpetuation of form to require a concrete resolution. They are like diffuse musical sounds without key or chord. Other stimuli are not merely physiological, but bio-psychic, as definite and exacting as an unresolved chord or uncompleted melody. The elements thereof are grouped in a way to call up the bodily and mental resources of the organism for a further re-action. They retain or contain a sufficient form to impress themselves upon the nervous arcs with a perseveration that suggests the analogy of the echo, which brings back to us the suitably articulated word instead of dissipating it into mere noise. To the first, I may leave the ordinary word *stimulus;* which may, at times, shade into "situation"—viewing this as an assemblage of stim-

ulating conditions, whether responded to or not. But for definite provocations the word *neuro-signal* applies.

Our experience shows that even in the vagaries of dreams, frames of reference exist to receive neuro-signals and to contain within limits the variations of the topic of thought, thus governing the "free" play of fancy. This helps us to see that dreams are not to be interpreted as elastically as the layman is ready to believe, nor to be viewed as so deeply governed by intricate symbolism as the psychoanalysts proclaim.

Contrary to the general spirit of Freud's principle as quoted, we have traced in the above dream a clean-cut operation of a limited number of cues working within a limited frame of reference, in which not only the somatic sensations but definite psychic remnants of the day before (thoughts about wool) act as contributing facilitations, thus introducing the idea of sheep and shepherds. What Freud speaks of as the "dream thought," is NOT making a choice from an array of somatic sensations but being dictated by them. Fancy is governed by somatic neuro-signals. The principal cue (coolness of air) and the accessory cue (sensations of clothing) drag into play the psychic remnants.

It would be idle to pick to pieces Freud's generalization with the hope of turning it into a useful formula. The dream as a whole can be explained only by recognizing a principle largely overlooked by Freud, to wit: that a dream is mainly an attempt to recognize or otherwise react to a neuro-signal, and that the dream imagery is incidental to a definite ranging of the mind, which adheres to the order of following a scent or even taking aim at some object imperfectly perceived. Freud has never discovered this simplifying principle, which would tend to solve the psychoanalytic dilemma: the dilemma of not knowing where to stop imputing symbolism to the dreamer.

Specifically, the Dream of the Shepherds was part of the recognition of the pajama jacket and of the lack of covering for the exposed portion of the body. The dream was a response to the need for warmth and was part of an utilitarian search through a congeries of ways and means to bring the jacket into service as a warm (real wool) garment.

SOMATIC SIGNALS AROUSING PSYCHIC IMPRESSIONS ARE DETECTABLE AS HAVING MECHANISTIC INTERPLAY

To recapitulate: the principal cue was the cool air, the accessory cue was the pressure of the pajama jacket's folded borders, particularly the buttons against the chest. The facilitations were the thoughts of the night before concerning the textile quality of the pajama jacket material. The physical sensations were so slight that they were not consciously recognized until the dictation of the dream from memory (in the undisturbed recumbent position) had reached an allegorical description identified with my own neck and chin as a landscape. Then these principal and accessory cues were distinctly recognized as such; further passive examination revealed the subjacent thoughts concerning the shoddy quality of the wool, and explained by "contrast association" the picturizing of the genuinely woolly animals.

§11. Application of the Frame of Reference

Contrary to Freud, my experiments or experiences show that the somatic condition (neuro-signals from the somatic) may so completely govern the flow of thought (psychic selectivity) that this response fails to have psychic significance as to the wishes or mental predilections of the individual. This sort of dream is a mere trial and error recognition of the stimulus; it is "no fair" to draw presages from it as to the whole personal disposition.

Conversely, the psychic facilitations may so dominate the phantasy, in joint operation with the somatic signals, that Freud's one-sided formula may appear to fit the case. But this achievement is due to the Delphic obscurity of the formula. As a matter of fact, some somatic stimuli playing upon the nervous system may be without influence on the course of a dream and the same may be true of existing psychic facilitations, because they are for the moment beyond the pale of any active frame of reference. The interplay of psychic and somatic influences is governed by certain pre-formations fairly constant in the organism, and amounting to what may be spoken of as the *sectors* for mental operations. This view is the opposite of the notion of universal interplay of memory

factors, which Bergson has so ingeniously employed in his doctrine of the *effort* of mental selectivity.[8] Dreaming is only a little less dependent than waking thought upon regulated operations within a frame of reference, and follows on due occasion a restricted range, or sector, in the domain of personality.

The dilemma of the psychoanalyst who goes astray in the field of symbolism is that he does not recognize those delimitations of the topic of thought which the dreamer himself is apt to be sedulously respecting, in accordance with innate provisions for the utilization of experiential records.

The contradiction to Freud's formula will be made even more clear when we consider the deeper meaning of the dream above related. This can be understood by the mention, not previously introduced, that each shepherd carried a crook or crozier. Again, this is no occasion of psychic symbolism, but is a reverting, a turning in sleep toward what has become second nature in man, namely, tool using. A shepherd's crook is fundamentally an instrument for bringing together sheep (woolly objects) at a distance. Shepherds throw stones or other missiles by using the cuplike arrangement provided at the end. It, therefore, belongs to the category of instruments employed for bringing things into union from a distance, that being the nature of shepherding. Accurately speaking, my image of a crozier in the dream is a "poor guess" at a buttonhook, which, however, is relevant to bringing together the straying portions of my pajama jacket. The sensations occasioned by this garment constituted neuro-signals from the skin receptors. The search for a means to correct what the signals intimate pervades the whole dream, disclosing it to be a comfort-seeking reaction of the same general automatic type as the drawing-up of a blanket around one in sleep. The dream was elaborated in obedience to the habit that we have of marshalling all memories that have been classified, even albeit remotely, as relevant responses to the neuro-signals. But such a mechanism is a long way from the hide-and-seek that the dreamer's wish is supposed by Freud to be playing with the Censor.

Cue and recall in this dream show a linking of categories

of memories, which is more fully explained in the Foreword introducing Book III, although not with reference to this dream in particular.

The embodiment of categorial linkages in the warp and woof of a dream suggests a convenient way of viewing the absurd or irrelevant imagery that may be projected upon the sleeping consciousness, as if there were *categories of ideas* in shadowy play in the back of the mind. This is a device of explanation. Its use may be seen in the Dream of the Shepherds. There we have generic ideas reflecting the particular items: there is *roundness* and *jaggedness* corresponding to the topography of thorax and chin; there is *woolliness* and *warmth, separation* of lanes, *regular spacing* at intervals on the lanes, and a crozier-like object identified with *drawing woolly things together.* Each of these generic qualities operated as a middle term interpolated like a hyphen in a respective thought-couple named *cue* and *recall.* With this hint, the patient reader can detect the interplay of the various categorial linkages; for it requires and deserves a certain amount of patience to complete the task of comprehending the mechanism of a dream. There is need of a special vocabulary to describe this kind of skewed concordance, which occurs between the several elements of the neuro-signal that is acting as cue and the distorted reactions of imagery that eventuate as recall. Already we have adopted the term unit-constituents to point analytically to those constituents of cue and recall that bridge the apparent gulf between stimulus and reaction in a given instance. To make this relationship loom large enough to guide our interpretative work we speak of the interplay of unit-constituents as if each were attached to some group of related images or family of ideas called *categoreme.* Then the component elements of a cue are more easily visualized as represented in the fractional elements of the recall. For instance, in somatic dreams like that of the Shepherds a census of the unit-constituents of the imagery reveals a much more orderly representation of the categories of ideas belonging to the bodily sensations than is dreamt of in the philosophy of psychoanalysis.

The cue's elements or unit-constituents, as we call them,

CUE ELEMENTS CONSTITUTING THE NEURO-SIGNAL CAN BE PLOTTED TO EXHIBIT CONCERTED ORDER OF MOBILIZATION

appear to control the course of dreaming like hinges or pivots around which the fancy may be seen to revolve. But what is to be declared the pivot of a given reaction is not as easily guessed as we are told that it is by those who propound the doctrine of symbolism. The linkages of memory operative in unrolling and guiding the phantasy of the dream are apt to be extremely definite and extremely individual. It is part of the technique of inventorying and of reconstituting the course of thought in dreams to recognize the extreme variability of the associative process. It is this variability that requires the recognition of that which we have called the frame of reference. For purposes of exposition, this may be compared to a sort of frame-work or scaffolding that we arbitrarily erect as a means of placing in our own scientific contemplation the elements of memory governing a dream phantasy. This scaffolding may be even more pointedly compared to the guiding structures that preside over the formation of such a thing as a rock crystal. As is well known, the molecules of silicon dioxide find their place in a definite arrangement satisfying their mutual and respective affinities so that definite axes may be mapped out in the finished crystal. So, also, the onirologist can find definite axes or coördinates that enable one to depict with quasi-mathematical accuracy the interplay of the elements of dream imagery that have become mobilized as a result of the first absorption of cues. These, in turn, are seen to work out from a mass of facilitations and of impressions that can be identified as playing upon the organism, just as the infiltrate that goes to form an amethyst (which is rock crystal colored by minerals) may be seen to have been influenced in the work of crystallization by the setting provided through what is known technically as the matrix—so familiar in the term turquoise matrix. In the matrix, imperfect traces will be found of the same crystallographic tendencies which find their perfect expression at the central axis where the purer crystal is formed. In the same way, in the first stages of dreaming, viewed as a general and crudely established state of mind, one finds evidences of the preliminary setting whereby the definite cues and facilitations reach that arrangement within the scaf-

THEORY OF SYMBOLISM HAS OBSCURED DEMONSTRATION OF MECHANISTIC CO-RELATION AS BETWEEN CUE AND RECALL

folding which permits them to guide phantasy in more and more definite and definable ways.

The discovery of this definiteness constitutes the advance made in this investigation through the Inventorial Technique, the Reconstitutive Method, and the Zadig Test. Once and for all, these resources of study have proved their value in displacing the over-use of guesswork and of vague suppositions based upon symbolism. The use of these resources renders needless the acceptance of a belief in archaic memories operating independently of that mechanistic definiteness which we refer to when we speak of the frame of reference and of the neuro-matrix.

As an illustration of the definiteness which can be conferred upon a phantasy that had itself not been fully subjected to contemporary study, we may take an instance from Freud's own dream, recalling, in the meantime, his own theory and showing its inapplicability to the very case that he cites in support thereof. This is a dream that Freud treats mainly from its purely psychic aspect although we shall use it to point out the manner of operation of what he calls "somatic sources."

To sharpen this point it is necessary to take up the words of Freud himself, where we left the matter, and to go on with the application of the conception of Unit Constituents to the dream furnished by Freud.

Let us place his own interpretation in parallel with an alternative explanation of our own, as above suggested.

EXHIBIT FROM FREUD'S "INTERPRETATION OF DREAMS"
IN TRANSLATION PUBLISHED BY MACMILLAN, NEW YORK, 1911

The Quotation from Professor Freud, beginning page 201, is shown in the left-hand column, in parallel with our onirocritical comment as recorded in the right-hand column.

If somatic sources of excitement occurring during sleep—that is, the sensations of sleep—are not of unusual intensity, they play a part in the formation of dreams similar, in my judgment, to that of the impressions of the day which have remained recent but indifferent.	This is the statement already quoted on page 88 which we have impugned by citing an example of slight bodily sensations that operated as controls in the Dream of the Shepherds.

FREUD'S OWN DREAM PERMITS NEW MECHANISTIC ANALYSIS ON BASIS OF ITS INTERNAL EVIDENCE

FREUD'S ANALYSIS (Cont'd)

I mean that they are drawn into the dream formation, if they are qualified for being united with the presentation content of the psychic dream-source, but in no other case. They are treated as a cheap ever-ready material, which is utilised as often as it is needed, instead of prescribing, as a precious material does, the manner in which it is to be utilised. The case is similar to that where a patron of art brings to an artist a rare stone, a fragment of onyx, in order that a work of art may be made of it. The size of the stone, its colour, and its marking help to decide what bust or what scene shall be represented in it, while in the case where there is a uniform and abundant supply of marble or sandstone the artist follows only the idea which takes shape in his mind. Only in this manner, it seems to me, is the fact explicable that the dream content resulting from bodily excitements that have not been accentuated to a usual degree, does not appear in all dreams and during every night.

Perhaps an example, which takes us back to the interpretation of dreams, will best illustrate my meaning. One day I was trying to understand the meaning of the sensations of being impeded, of not being able to move from the spot, of not being able to get finished, &c., which are dreamt about so often, and which are so closely allied to anxiety. That night I had the following dream: *I am very incompletely dressed, and I go from a dwelling on the ground floor up a flight of stairs to an upper story. In doing this I jump over three steps at a time, and I am glad*

ONIROCRITICAL COMMENT

Instead of vague language we employ the concept of definite neuro-signals. We find that the main qualification for any excitation to act in arousing dream imagery lies in its finding some prepared channel or line of least resistance reaching to the psychic field. But, as often as not, it is the somatic signal that governs the tapping and use of psychic sources. The process is almost as traceable as the formation of an amethyst crystal in the rock by infiltration of a mineral solution. Certain permeable channels give an opening for the material in solution to assert its characteristic laws of crystallization whereby the particles work themselves free of the rock, at least enough to take on a form apt to satisfy the affinities that guide the particles. In this product, we find definite axes or coördinates, in terms of which we can plot the tendencies of the oxide of silicon, and identify its characteristic action regardless of the coloring matter that makes it an amethyst.

In dreams, a similar definiteness is discoverable by plotting the frame of reference regardless of admixtures that may be drawn in; so that the fundamental drives, especially the somatic signals, can be identified by the tendencies that they reveal, thus enabling us to get behind the scenes of the phenomena here mentioned by Freud.

This is a dream of insufficient clothing. It is explained later that these stairs are outdoors.

THE SOMATIC CUE-ELEMENTS IN FREUD'S DREAM OF FLYING EVOKE APPERCEPTIONS SIMULATING PSYCHIC CAUSATION

FREUD'S ANALYSIS (Cont'd)

to find I can mount the steps so quickly. Suddenly I see that a servant girl is coming down the stairs, that is, towards me. I am ashamed and try to hurry away, and now there appears that sensation of being impeded; I am glued to the steps and cannot move from the spot.

Analysis: The situation of the dream is taken from every-day reality. In a house in Vienna I have two apartments, which are connected only by a flight of stairs outside. My consultation-rooms and my study are on an elevated portion of the ground floor, and one story higher are my living-rooms. *(end of page 201)*

When I have finished my work downstairs late at night, I go up the steps into my bedroom. On the evening before the dream I had actually gone this short distance in a somewhat disorderly attire—that is to say, I had taken off my collar, cravat, and cuffs; but in the dream this has changed into a somewhat more advanced degree of undress, which as usual is indefinite. Jumping over the steps is my usual method of mounting stairs; moreover it is the fulfilment of a wish that has been recognized in the dream, for I have reassured myself about the condition of my heart action by the ease of this accomplishment. Moreover the manner in which I climb the stairs is an effective contrast to the sensation of being impeded which occurs in the second half of the dream. It shows me—something which needed no proof—that the dream has no difficulty in representing motor actions as carried out fully and completely; think of flying in dreams!

ONIROCRITICAL COMMENT

Notice the two stages, that of rapid motion, and that of arrested motion or impedance.

The details of this "analysis" first suggest the fact that the generic idea of *a place where one is cold* has a rôle to play in the scheme of associations.

There is a recency effect that has coupled the *sensation of being outdoors* with *disorderly attire.* We may suppose that this facilitated memory is re-aroused and exaggerated by a sensation of cold in sleep. (Our investigations have revealed that the costumes in such cases are often very definite.) A coupling of memories of the nature noted above is further admitted by the dreamer as between heart action and rapid ascent of stairs. But the wish-fulfilment is by no means demonstrated. Does Freud suppose that the impedance is a contrast association? We shall show that it is not. May it not be an apperception of slower heart action? Our data point that way. But who can doubt that motor actions are carried out in sleeping fancy? This must be merely Freud's way of introducing us to the fact that this was a dream of "flying," being more than mere stepping or leaping.

SOMATIC COMPONENTS IN NEURO-SIGNALS THAT ARE ELICITED BY CHILL CO-RELATE PRECISELY WITH MENTAL IMAGERY

FREUD'S ANALYSIS (Cont'd)

But the stairs which I go up are not those of my house; at first I do not recognize them; only the person coming toward me reveals to me the location which they are intended to signify. This woman is the maid of the old lady whom I visit twice daily to give hypodermic injections; the stairs, too, are quite similar to those which I must mount there twice daily.

How do this flight of stairs and this woman get into my dream? Being ashamed because one is not fully dressed, is undoubtedly of a sexual character; the servant of whom I dream is older than I, sulky, and not in the least attractive. These questions call up exactly the following occurrences: When I make my morning visit at this house I am usually seized with a desire to clear my throat; the product of the expectoration falls upon the steps. For there is no spittoon on either of these floors, and I take the view that the stairs should not be kept clean at my expense, but by the provision of a spittoon. The housekeeper, likewise an elderly and sulky person, with instincts for cleanliness, takes another view of the matter. She lies in wait for me to see whether I take the liberty referred to, and when she has made sure of it, I hear her growl distinctly. For days thereafter she refuses to show me her customary regard when we meet. On the day before the dream the position of the

(Page 203)

housekeeper had been strengthened by the servant girl. I had just finished my usual hurried visit to the patient when the servant confronted me in the ante-room and observed:

ONIROCRITICAL COMMENT

In flying dreams, we know, stairways are often depicted as part of the phantasmagoria. What stairways shall come into the dream may possibly be determined by psychic facilitations, but that does not imply that the somatic cues have played their part any the less. These stairs are undoubtedly linked with memories of marked heart action; that is one categorial linkage.

Why is it necessary to assign a sexual character to this *shame* when all the related items of the dream counteract this idea of a sex linkage? Is there no better reason for *shame* viewed as a sequela of the two offenses against conventional custom that Freud's memory called into play during the dream? The real affiliation is with the category of *embarrassments.* But there is likely another, a physiological cue relevant to the act of expectoration. For in dreams of insufficient clothing we have found that the usual sensory signals from the skin are followed up with further sensory signals from the lungs, both sets of neuro-signals being activated by the physiological response to chill, as mediated by the Sympathetic Nervous System. The secondary respiratory action may be counted upon to provoke sensations commonly linked in memory with the rising of phlegm and expectoration. (Heightening of the activity of the cilia?)

Thus, the stairway imagery is also quite explainable in terms of somatic signals operating within a frame of reference. The present frame of reference claims this particular stairway by categorial linkages with *embarrassment,* due to the

IN FREUD'S FLYING DREAM THE CATEGORIAL CONCEPTS AID IN TRACING THE LINKAGE BETWEEN CUE AND RECALL

FREUD'S ANALYSIS (Cont'd)

"You might as well have wiped your shoes to-day, doctor, before you came into the room. The red carpet is all dirty again from your feet." This is the whole claim which the flight of stairs and the servant-girl can make for appearing in my dream.

An intimate connection exists between my flying over the stairs and my spitting on the stairs. Pharyngitis and diseases of the heart are both said to be punishments for the vice of smoking, on account of which vice, of course, I do not enjoy a reputation for great neatness with my housekeeper in the one house any more than in the other, both of which the dream fuses into a single image.

I must postpone the further interpretation of this dream until I can give an account of the origin of the typical dream of incomplete dress. I only note as a preliminary result from the dream which has just been cited that the dream sensation of inhibited action is always aroused at a point where a certain connection requires it. A peculiar condition of my motility during sleep cannot be the cause of this dream content, for a moment before I saw myself hurrying over the steps with ease, as though in confirmation of this fact.

ONIROCRITICAL COMMENT

sense of insufficient clothing and due to the irritation of phlegm or similar by-effects of the broncho-dilation.

This fits in with the embarrassment caused by the servant girl's remark.

The fact of having spat upon these stairs simply makes them matriculate in the category of *places connected with mucus in the larynx,* and also in the category of *scenes of embarrassment.* These linkages are interwoven with the categoremes of *places where one is cold* and *places where one has rapid heart action.* For the locus of the dream blends into one scene two sets of stairs, both needed to give the four connecting links with the somatic neuro-signals. In the words of Lewis Carroll, sometimes used to describe the bonds of affinity between uniting chemical elements, "we cannot do with less than four and give a hand to each."

All elements of the dream show affinity with somatic cues.

Freud has missed the point; this is a physiological dream in which the sleeper's "motility"—in a peculiar sense—indeed calls for attention.

The dreamer's imagined rapid movements and then the slowing and impedance of movement are fancies based upon an actual sensation of the heart's behaviour, which first takes on a rapid rhythm and then a greatly retarded rhythm, consequent upon a circulatory change provoked by the initial chill. The picture of action and reaction may be extended with the utmost mechanistic detail if we take due account of the behaviour of the sympathetic nervous system under such circumstances as we have assumed.

OCCURRENCE OF STAIRCASE IMAGERY IN DREAMS IS EXPLAINED BY CUES THAT ARISE FROM CARDIAC SENSATIONS

To make the explanation clearer it is necessary to recapitulate the events of this dream in accordance with the reconstitutive method.

We will continue to assume that Freud was somewhat chilled in sleep. This makes him think of insufficient clothing, then of places and circumstances congruent to the costume. At the same time, with a moderate degree of chill, his circulation is activated by the usual physiological responses so that he notices (subconsciously) the increased rapidity of the heart rhythm; this feature tends to attract a memory picture of stairways—a common feature in dreams governed by heartbeats. But the stairway images become more specific than is common because the physiological cues encounter "psychic remnants" that have special affinities of experience not only with increased heartbeat (tachycardia) but also with bronchial sensations which are simultaneously aroused (via the sympathetic fibres) and give off additional neuro-signals. The affinities of the various unit-constituents of these neuro-signals or cues are satisfied by the dream stairway, a mosaic fabrication made by blending two actual stairways; together they happen to be experientially linked with cold air (chill), tachycardia, and expectoration as well as with *deshabille* and its twin category of *embarrassment*. This leaves only the flying sensation and the impedance to be explained. And for this we must give the solution in terms of numerous experiments performed in our investigation of flying dreams and for the elucidation of autonomic reactions in blood vessels, heart and bronchial tree.

In this work, the floating sensation and its congener, the flying or levitation illusion, were traced to sensations of vasomotion at or near the skin surface; while the sense of impedance was found to be commonly dictated by the slowing of the heart action for the physiological purpose of overcoming the resistance to arterial flow. In some cases it was hard to distinguish the cue-rôle of the slowed heart (with its powerful systole) from the rôle of the constriction of surface arterioles, the reason being that both reactions are concurrent manifestations of mutually dependent circulatory responses to the sensation of chill. But favorable opportunities in my own case

INTERESTING PARALLEL EXISTS BETWEEN ACTUAL QUALITY OF HEART-BEATS AND CORRESPONDING FANCY OF LOCOMOTION

have shown me that the phantasy of impedance can be due to either of the two or both cues, their associative tendencies being the same. Yet in one case, where I passively observed the slowing of the heartbeat, I had a chance to note the dream taking the form of a fancy that I was climbing very slowly and painfully a surface that had once been a carpeted stairway; but it had become flattened out to a steep ramp, for the ascent of which I was fruitlessly digging my bare toes into the carpet, being unable to conquer the declivity. This matched the heart action perfectly. At other times, an actual sense of chill produced imagery of numbness and paralysis.

In Freud's instance there is every reason to suppose that the impedance was simply an apperception of his bradycardia, or slowed heart, at the second stage of the vasomotor reaction; the first being the quickened pulse.

To make it clearer how the tachycardia and the bradycardia are definitely traceable as sources of neuro-signals, I will explain that this succession of events belongs to a characteristic cycle of physiological reactions which can be brought out by chill or through the administration of adrenalin in hypodermatic injections. In a series of about 10,000 such injections, administered in collaboration with physicians, for the experimental dosage of adrenalin, I found that one could plot and predict in advance the behaviour of the heart in response to a given dose. From thousands of 15-minute charts of pulse, respiration and blood pressure, it was possible to determine the likelihood that the heart would adjust itself to a progressive vasoconstriction, first by an increase of beats until this failed to supply the necessary blood output and then by a much slowed systole in keeping with the rise of the blood pressure to be overcome.

There is nothing absolute about this sequence of events; each case represents a particular adjustment of the heart to the degree, rate and duration of vasoconstriction. The heart may behave as a sort of independent organism (like an animal experimenting by trial and error) trying what it had better do to restore the circulation to normal. In keeping with this, our collection of flying dreams exhibits pictures of varied

rhythms in sequence according to the degree of chill or according to the other circumstances that may have called forth a sharp circulatory readjustment in sleep. But the succession of tachycardia and bradycardia, with an interpolated phase of levitation and broncho-dilation, is so familiar in my experiments that it is a wonder to me that Freud's interpretation of the dreams of flying and of insufficient clothing should so long have passed virtually unchallenged.

In spite of the fact that Freud has not discovered the somatic sources that govern two types of dreams that he has made much of and the frequent pairing together of which might have aroused his experimental interest in their common origin in chill, we find him (on page 205) magisterially discoursing in a sort of anthropological vein about the *shame* associated (sometimes but not always) with the fancy of insufficient clothing.

> The shamed embarrassment of the dreamer and the indifference of the spectators form a contradiction which often occurs in the dream. It would better accord with the feelings of the dreamer if the strangers looked at him in astonishment and laughed at him, or if they grew indignant. I think, however, that the latter unpleasant feature has been obviated by the tendency to wish-fulfilment, while the embarrassment, being retained on some account or other, has been left standing, and thus the two parts fail to agree. We have interesting evidence to show that the dream, whose appearance has been partially disfigured by the tendency to wish-fulfilment, has not been properly understood. For it has become the basis of a fairy tale familiar to us all in Andersen's version,* and it has recently received poetic treatment by L. Fulda in the *Talisman*. In Andersen's fairy tale we are told of two impostors who weave a costly garment for the Emperor, which, however, shall be visible only to the good and true. The Emperor goes forth clad in this invisible garment, and, the fabric serving as a sort of touchstone, all the people are frightened into acting as though they did not notice the nakedness of the Emperor. [*Des Kaisers neue Kleider.]

Bearing in mind this use of folk tales in connection with dreams, we might well say that the Freudian theory has been dressed up with many alleged explanations that are only matters of error agreed upon. Perhaps the disciples have been

BODILY REACTIONS TO CHILL CO-RELATE POSITIVELY WITH FANCIFUL DREAM IMAGERY THUS UNDERMINING FREUD'S EXPLANATION

frightened into accepting them. Is it not time to prepare ourselves by direct, simple and naïve observations of dream phenomena to be skeptical about the psychoanalytic theory of symbolism, so that we may readily say as occasion requires: "The Emperor has no clothes."

Now as a matter of fact, the state of chill itself has been investigated by the use of what we have spoken of as pre-resolution: this means that a complete resolution and elimination of unadjusted states of mind was made when going to bed, so as to simplify as much as possible the general mental situation before sleeping. In addition, for many nights in succession the conditions of heating and bed-clothing and the like were allowed to remain in a state favorable to the occurrence of a chill reaction at some time during the night. The organic response was observed while the subject remained in the state of passive attention already described. It was found that a condition of mind akin to misery could be easily detected as inspired by the general lack of skin comfort. This, in turn, furnished a perfectly understandable source of neuro-signals which, in sleep, are likely to be falsely apperceived as enhancements of *shame*. Such are the operations of "subrogation" in sleep, as disclosed in this investigation.

The Dream of Insufficient Clothing is a case in point touching the ineffectiveness of Freud's formulation as regards somatic sources, or somatic cues, as we would say. An equally extensive and intensive study of somatic and of psychic cues has been made in the course of this investigation. Where psychic cues are preponderant, the Freudian theory may often be detected at fault owing to a deficiency of those mechanistic considerations that we have found it necessary to invoke systematically in order to get on safe ground in interpreting any dream.

The acceptance of Freud's equally dubious explanations of some other dreams can be attributed to the admiration earned by his pioneering efforts at compelling his confrères to recognize that dreams are not negligible phenomena. Out of respect to the useful leader of a school that has brought the Cinderella named *Onirocritics* into the ballroom of Psychol-

ECONOMIC CONSIDERATIONS AFFECTING PSYCHOANALYTIC WORK HAVE CAUSED STUDY OF DREAMS TO FALL SHORT OF PURE SCIENCE IDEAL

ogy, one prefers to couch the criticism of the psychoanalytic views on dreams in the language of a disciple, as below.

> It is a scientific misfortune that so much psychoanalytic work is therapeutic in its aim rather than primarily investigative. This is, of course, inevitable: few people can be found ready to sacrifice time, money and personal comfort in the interest of psychology. Naturally, then, the vast bulk of dream analysis is carried on with the definite object of unearthing the hidden tendencies, which are causing the patient's symptoms, not with the hope of discovering laws concerning the structure of dreams. Every analyst has daily opportunity to verify the fundamental claims of Freud as to dream mechanisms—the "dream work"; but he is forced by consideration of the patient's need to forego the pleasure of reconstructing the dream after it has been analysed, since this is largely of academic interest. Again, we have all of us the constant experience of confining ourselves to one chapter, one act of the dream, or one dream of a number presented in one night. If we should attempt to run to earth every detail in a long panoramic dream, we would find ourselves spending days, even weeks, with the productions of one night, and taking little account of the progress of the patient's nocturnal autistic life.
>
> —The Metamorphosis of Dreams by Dr. John T. MacCurdy, in *Problems of Personality,* Harcourt Brace & Co., New York, 1925.

These words recall those of Knight Dunlap inasmuch as they are pitched in the same minor key of *economic difficulty,* which, as realized in our own work, is singularly appropriate to the travail of dream investigation. By good fortune, however (and in keeping with Dr. Dunlap's remark anent "some philognostic foundation") aid has accrued for the surmounting of our most serious obstacles, through the operations of the Cartesian Research Society of Philadelphia. I refer not only to the material necessities supplied to assist the work of psychologizing the dreamers, but also to those unique and invaluable aids of moral support, of personal tact and insight, and of sympathetic understanding of difficult situations which have made it possible to guarantee to the dreamers the proper circumstances for giving their intimate records, and submitting these to detailed examination. Lacking the thoroughness so made possible, it would have been a prohibitive task to proceed

DOCTRINE OF SYMBOLISM IS REPLACED BY CONCEPT OF SUBROGATION WHICH FEATURES INTERFERENCE WITH NEURO-SIGNALS

to establish definite parallels between cue and recall, between situation and response, or, specifically, between neuro-signal and reaction.

Apperceptive error in responding to cues, or *subrogation* in the act of substituting a wrong reaction to a set of neuro-signals received in sleep should be thought of, for convenience, as the consequence of a "scrambling" in and among the elements of the cue or signal. Careful study discovers all sorts of curious shifts from the normal adjustments of waking response, but the outstanding aberration is the dropping out in the state of sleep of the due number of categorial linkages. This, in turn, seems to be due to a straggling of certain cue-elements, which lag behind and permit the ones that advance more rapidly to govern the play of ideas. Yet, as the dream goes on, it may be observed that these cue-elements get another chance to participate in an action determinative of the imagery evoked before the dreamer's consciousness. This observation has been dealt with under the title of Progressive Relevancy; its converse is the phenomenon of Approximation, which means that dream images are in a sense capable of being "targeted" as hits more or less close, at something that the organism is automatically driving for. But this is not the notion of wish fulfilment, being much broader, and in the direction of biological purposiveness rather than individual desire.

The above "scrambling" of signals does not take place in sleep when full use is made of the Acopic Technique for relaxation, as developed through the mid-state of attention. While this technique tends to produce perfect sleep, so also it seems to produce a perfect awakening. There is no confusion in the transition from sleep to waking; and hence no dream.

When the technique of the somnotic experiments, as already described, is employed to merely cut down the mass of facilitations and inhibitions that the sleeper would otherwise carry with him as "psychic remnants" (Freud) we find it much simpler to detect the cues in operation than when we take the ordinary dream related at the breakfast table. This is no doubt due to the fact that most of the dreams that are casually related are of the kind that have occurred under an

ALTHOUGH SOMATIC SIGNALS BEST EXHIBIT DISTORTED OR SUBROGATED RESPONSE YET PSYCHIC CUES ARE EQUALLY LIABLE TO SAME

"entanglement of the conditions" as Herbert Spencer would say. Such dreams lend themselves to easy-going analyses and to the development of the idea that the sources of dreaming are mainly psychic. But our data tend to show that it is not safe to attribute any systematic preponderance to one set of influences over the other. It depends on the individual and on his particular circumstances at a given juncture in his affairs. The more the data of dreams accumulate in our files, the more it appears likely that the best view to take of the statistical "expectation" in this matter is that somatic and psychic influences will probably work out in a one to one relationship. By and large, they are equally important, because they both deserve to be studied as attentively as possible in any given phantasy.

Lest it appear that we have slighted the mainly psychic type of dream, it should be recalled that the Introductory Chapter is devoted to just such a case.

The somatic paradigms discussed in the foregoing conspectus are easier to present in such a short account of the working of cue and recall. But psychic cues could be treated in much the same manner to reveal that definiteness of mechanism in dreams which it has become possible to detect by the special methods developed from this investigation. In Book III, numerous references are made to mechanisms provisionally named as Mosaic Fabrication, Inversion of Time, Independent Implication and the like. It is to be hoped that the suggestions thrown out in this manner may lead to criticism and to a greater refinement in the mode of visualizing the mechanism of thought in dreams. As soon as insight into the associative processes of the dreamer shall be shared and mutually discussed by even a small number of workers, from the angle of pure science, there will surely begin that much needed transition from the present speculative onirocritics over to a positive science of onirology.

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1. Aristotle of Stagira (384-322 B. C.)
   cf. page 254, *Aristotle's Psychology* by W. A. Hammond, Macmillan Company, New York, 1902. The reference is to *Parva Naturalia,* essay on Prophecy in Sleep, Chapter II, last paragraph.
   The further reference is to page 1 of Richard G. Moulton's Introduction to his *Shakespeare as a Dramatic Artist;* Clarendon Press, Oxford, 1906.

2. Thomas Hobbes of Malmesbury (1588-1679).
   see Chapter III, Paragraph 2, *Leviathan;* London, 1651.

3. Alfred Maury of Meaux (1817-1892).
   Le Sommeil et les Rêves, Didier et Cie.; Paris, 1861.

4. J. Mourly Vold of Christiania (1850-1907).
   Ueber den Traum, Experimental-psychologische Untersuchungen; 2 vols., O. Klemm, Leipzig, 1910, 1912.
   Expériences sur les Rêves et en particulier sur ceux d'origine musculaire et optique; Christiania, 1896.

5. Bergson's theory is that the dream of insufficient clothing is presumably, through a coincidence, inserted into some other dream from which it derives its setting. I have explained the needlessness of this supposition in my paper entitled
   The Apparent Inversion of Time in Dreams, Journ. of Abn. Psychology, April-May, 1916, on p. 54, citing Bergson's Essay as below.

6. Francis Galton, F. R. S. of England (1822-1911)
   Inquiries into Human Faculty and its Development; Macmillan & Company, New York, 1883.
   Mental Imagery, pp. 83-112; Number-forms, pp. 114-145; Color Associations, pp. 145-154.

7. Galton, Op. cit., pp. 203-207.

8. Henri Bergson of France (1859—).
   Le Rêve; Bulletin de l'Institut psychologique international; May, 1901. Also in Revue Scientifique, June 8, 1901. Translation entitled *The Mechanism of Dreams,* with an Introduction by Edward E. Slosson; New York, B. W. Huebsch, 1914.
   For criticism of Bergson *in re* effort of recall, see my paper, cited above, (5), top of p. 54, also my paper *On the Irrelevancy of Dreams,* Journ. of Abn. Psychology, August-September, 1916, on pp. 147-148.

(**)The double asterisk signs in the text of the foregoing chapter refer to the general abstract of my papers, which will be found at the end of the next chapter.

Book I

Chapter 3

THE DREAM PROBLEM

An Elucidation of
the Trial and Error
Theory of Dreams

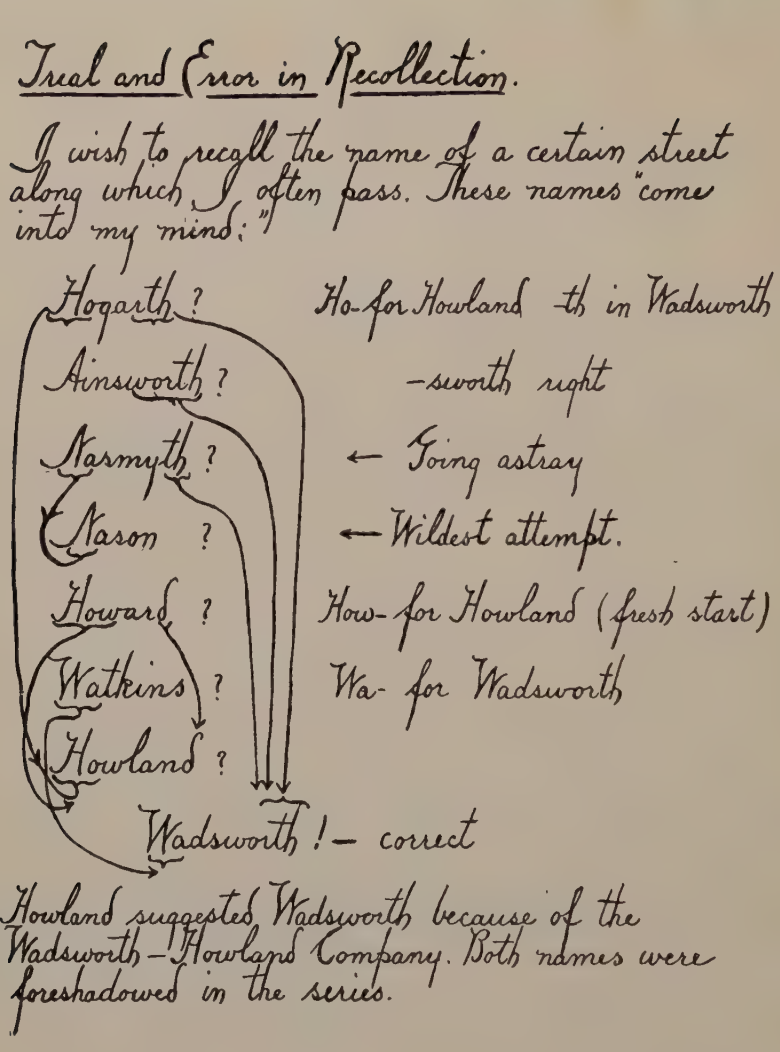
Trial and Error in Recollection.
I wish to recall the name of a certain street along which I often pass. These names "come into my mind:"
Hogarth ?
Ainsworth ?
Nasmyth ?
Mason ?
Howard ?
Watkins ?
Howland ?
Wadsworth ! — correct
Ho- for Howland -th in Wadsworth
-sworth right
← Going astray
← Wildest attempt.
How- for Howland (fresh start)
Wa- for Wadsworth
Howland suggested Wadsworth because of the Wadsworth-Howland Company. Both names were foreshadowed in the series.

FIG. 17. This is an example of an interference with recall caused by a parasitic cue (Howland) which has joined its influence to the ordinary cues for remembering the desired street name

AN ELUCIDATION OF THE THEORY

Being an Account of Statements Made and Questions Answered During an Examination of the Trial and Error Theory of Dreams

BEFORE an academic group in Columbia University, including the Dean of the Faculty of Philosophy and representatives of the Departments of Psychology, of Physiology, and of Neurology, there was offered a defense of the thesis on The Dream Problem, as included in this work. Previous to this occasion, there had been submitted a brief of a Trial and Error Theory of Dreams, comprising abstracts of the formulation of that theory, originally set forth in eleven issues of the Journal of Abnormal Psychology.

On request, a preliminary survey of the dream problem was made as follows:

It is an excellent custom of long standing among scholars that, before undertaking to give one's views upon a subject in controversy, one should pay due respect to the "opinions afloat on the subject" as Aristotle says, and acknowledge the efforts of one's learned predecessors.

In reporting an investigation on dreams, this is particularly difficult because the topic itself, despite the immense interest it has aroused in all ages of history and in all generations of men, is not as yet withdrawn from the penumbra of popular superstition, nor as yet regarded by scholars as entirely worthy of the high light of scientific observation. This situation shows itself in the methods that have been employed in studying the dream problem, many of which seem to be borrowed either from a mental discipline developed in too rigid a laboratory or from a hit-or-miss habit of speculation that is uncontrolled by any definite technique. Thus, the history of dream investigation presents such a mass of crude views intertwined with even the most sensible statements about dreams, that the task of separating them would require volumes instead

FOR REALISTIC INSIGHT INTO DREAMS BROADER BASIS OF FACTUAL STUDIES IS REQUIRED

of a succinct presentation. This statement would still hold water even if we confined ourselves to some of the cleverest and most suggestive writers on dream investigation like Maury, Paulhan, Goblot and Mourly Vold. It is difficult to present the views of these authors effectively because what the reader has need of is not so much to collate the tentative conclusions of others as to be put in the way of evolving a viewpoint of his own, by something like first-hand acquaintance with the data of dreams. Books II and III of this work on The Dream Problem afford some realistic insight into the basis of the problem. Heretofore, the study of opinion has been too little guided by the study of fact.

At this point, one cannot help recalling a story concerning the early days of the career of the Royal Society of England under the patronage of King Charles the Second. Taking his office as patron very seriously, he sent word to the distinguished assemblage that he would like them to solve for him scientifically a troublesome question. "Why is it," he asked, "that a live fish weighs more than a dead one?" As the anecdote reports the matter, the scientists debated the question for three days before it occurred to anybody to try an experiment. The experiment being tried, with the help of simple laboratory appliances, like a scale and a bucket of water, it was found that there was no measurable difference in weight between a live fish and the same fish dead. Thus the Fellows of the Royal Society early gave an example relevant to the dictum of John Dewey that, in philosophy, we do not solve our problems but we get over them. Applying this to the subject of dreams, it may be said that the first fruit of the present investigation has been to show the way to "get over" a large mass of preconceived ideas that have been needlessly imported into this field. For instance, we are told by many authors that surprise is rare in dreams, whereas any extended observation on dreams shows that surprise occurs as often in the phantasmagoria of sleep as it does in ordinary waking life. What authors should say is that the things that would surprise us in waking life do not always occasion this reaction in dreaming. Further instances could be cited *ad nauseam*. In other

TILL CLOSE OF NINETEENTH CENTURY HISTORY OF ONIROCRITICS OFFERS ONLY PATCHY OR ONE-SIDED THEORIES

words, the state of onirocritics—as a would-be science of the interpretation of dreams—has been stultified, even throughout the nineteenth century, by a looseness and a lack of standards similar to that state of anecdotage in which Thorndike found animal psychology a quarter of a century ago. Just as most people do not call themselves strictly to account when relating the actions of animals, so most writers have allowed themselves a great deal of latitude in dealing with that loose play of the mind which we call dreams.

A possible exception is furnished by the work of Mourly Vold, who made an elaborate attempt to study dreams from the standpoint of stimulus and response. This monumental investigation, interesting as it is in regard to the false perceptions of the dreamer concerning the physical stimuli applied to him, nevertheless did not yield results that are considered, in any fundamental sense, to have cleared up the problem.

On the other hand, Freud's interpretation of dreams has been hailed as supplying what was lacking in this field. But his work belongs to the twentieth century rather than to the close of the nineteenth which Mourly Vold represents. As Mourly Vold overstressed observation of the external physical stimulus deliberately chosen by the experimenter, so Freud has immeasurably exaggerated the significance of the subjective urge supposedly actuating the inner consciousness and revealing itself by the expressive symbols which are alleged to constitute the dream.

Considering the infinite shadings of theory between these extremes, it will be understandable that there is little profit in attempting a reconciliation of the opinions and scientific evidences of other investigators, except as the statement of a new theory may furnish a novel perspective that shall minimize contradictions. The investigators and their works are far behind us, dreams are always with us to afford fresh formulations. Perhaps I may be permitted to state flatly, but without offense, what an independent and prolonged investigation has taught me about "the imaginations of them that sleep." (Thomas Hobbes, *Leviathan,* 1651.)

In view of the immense variety of responses of mind con-

stituting the dream, and in view of their being so commonly "far-fetched" in the sense of not bearing the expected and usual linkage that our common sense demands, as between stimulus and response, there is need of a very inclusive formula if it is, in any way, to help us hold fast to a scientifically exact conception of the dream, as a bio-psychic process.

Speaking somewhat downrightly, one may give as a *formula for the dream* the following general picture:

The dream is the memory left by the stirring of the centers of consciousness during sleep.

Going back, however, reconstitutively, to the past event of which the dream narrative bears witness, we may further describe it in terms of contemporaneity:

The dream is the psychic repercussion and by-effect of an attempted resolution of physiological states that exist at the time of dreaming. These embody neural excitations under the immediate influence of stimuli acting either from the external environment or from the bodily structure of the dreamer or else holding over from a previous occasion (usually within the last 24 hours) as pent-up forces ready to discharge at the slightest provocation—thus stirring consciousness.

The dreamer's situation, so described, can be specifically traced outside the nervous system as concrete stimuli, or inside the neuro-system in the form of facilitations or inhibitions. (Cf. p. 47, Chapter 1, Book I.)

To meet all objections to this formula would require volumes, but its general reconcilement with modern Biology and Psychology has been attempted in the series of eleven papers printed in the Journal of Abnormal Psychology, from 1914 to 1921, inclusive. (**)

That this formula seems to fit the case better than any other, I have come to believe as a result of a decade and a half of work with several hundred subjects who submitted their dreams and with dozens of collaborators whom I put in the way of prying out the significancy of their dream phantasies when these were being studied independently of me. In this way, I received not only confirmations of the trial and error

INVENTORIAL TECHNIQUE IS STANDARDIZED DISSECTION OF DREAM INTO ITEMS CONVENIENT FOR STUDY

theory of dreams, but also a great many hints for the refinement of the inventorial technique of dream analysis, which had originally paved the way for the attainment of the theory.

The Chairman of the meeting then asked that the advantages of this technique be presented.

In response, it was related how various groups of workers were employed for months and years on end in recording their dreams and in itemizing them with particular reference to working out a standard inventory. †'To supply a norm as a beginning for the standardization of the dream inventory, such as now is made more evident by the printed Page B of the inventorial record forms, we used the narrative of *Alice in Wonderland.*' The workers were taught to inventory the twelve chapters as if each were a dream, thus supplying precedents by which the dreamer-subject might guide himself in itemizing his own phantasy. For each phantasy, the items so inventoried were employed as stimulus words or stimulus ideas presented in paraphrase to evoke the so-called free associations of the dreamer.' [A complete example of this method is given in the first chapter of the so-called Introduction to the Dream Problem, Book I.]

The question was then put by one of the psychologists present: "Do not Freud and others employ the same method?"

It was admitted that a similar method of free association was in general use. However, except for the standardized inventorial system, the method was not applied as thoroughly nor as frequently and convincingly as it should be to the analysis of dreams. Even the prevailing technique in clinics did not go very much beyond a certain fumbling for possible meanings in obedience to the natural impulse to "make something out" of the more or less irrational narrative. 'Feeble-minded individuals, who may have the wit to remember and relate their dreams, do that same thing, automatically casting about for some explanation of the origins of the fantastic items. Psychoanalysts cast about for what interests them. Hence they follow a line that leads to two things: one is getting away from

† The inverted comma or single quote (') marks the departure from indirect discourse for the sake of a less cumbersome mode of reporting the proceedings.

USE OF INVENTORY PROMOTES IMPARTIAL CROSS-EXAMINATION OF THE DREAMER'S TESTIMONY

the dream—viewing it less as a dream than as a clue to the life history of the individual; the other is interpreting it as the symbolical fulfilment of the most palpable wish that it suggests to the interpreter. Besides, in clinical work it is not necessary to interpret every dream.

'The inventorial technique enforces a well balanced view of the evidence from the dream narrative as to the process of dream formation. It affords a new angle or parallax, and checks the tendency to over-emphasize one incidental aspect for the sake of rounding out an interpretation. It offsets the wrong "lead" and biased view by counterbalancing two forces: first, the tendency of the dreamer to *stick to the dream* as a single unbroken whole and to shut off all associative "ducts" that would lead back to its genesis in true relation to life; second, the tendency of the experimenter to force an interpretation on the dreamer. The discipline of the Inventory makes a colder, less partisan or theoretical analysis of the imagery by decomposing it into its structural unities and tracing the seemingly indissoluble whole back to the derivation of its parts in a more revelatory way than has been employed hitherto.

'The value of the inventorial technique rests upon the degree to which it favors the examination of evidence. From a logical standpoint, it installs in the dream analysis a check that is common in legal practice, namely, the cross-examination of the witness. This offsets the direct examination which so often has the fault of being biased by the tendency of a witness to form syntheses of memory on his own account, instead of reproducing the past event "historically" from the neural traces left by it upon his mind.

'The inventory of dream items, and the procedures based upon its use in the association tests, virtually compel the experimenter to examine his own findings most critically. The true linkages in the dreamer's train of thought, as they occurred at the time of dreaming, tend to be retraced under the discipline that is established by the inventorial technique, quieting and regulating, as it does, the mutual reactions of experimenter and dreamer by the introduction of an atmosphere of parliamentary rule, in contrast to the intimate personal *rapport* which is so often regarded as essential in the

INVENTORIAL RE-CLASSIFYING OF DREAM ITEMS SHOWS UP THEIR ORIGINAL CO-RELATIONS

psychoanalytic séance. [The attainment of greater authenticity of record through the inventorial technique will be found more fully discussed in the introductory chapter of this Book.]

'The use of the inventory has a strange likeness to the manipulation of a pile of jackstraws (in the game of that name) by the little ivory hook that enables the operator, provided he is duly skillful, to lift out of a seemingly inextricable mass some one bespoken prize and still not disturb the remainder. Without forcing this difficult analogy too far, it may be pointed out that dislodging one straw often entails the delicate removal of certain other straws interlocked with it, the operation as a whole tending to establish the fact that the elements so interlocked were brought into particularly intimate association when the bundle of straws was thrown down. Similarly, the *disjecta membra* of thought in sleep are precipitated into the dream panorama in a manner to attest the bio-psychic event that threw them together. Lifting one inventorial item (by apt queries) may cause such a stir of memory about another item that their mutual adherence stands revealed. (Wundt uses the term agglutination for such especially close relations. Cf. footnote p. 20, Book I.)

'In fact, for a time the whole mass of neurographic connections that underlies a dream is still found to be in such delicate and precarious equilibrium that the elements, so to speak, tremble at the touch and accordingly present a *fresh* opportunity to reconstitute past relationships of the items. It is the sort of equilibrium that has to be considered in a game of jackstraws. If, in studying a dream and examining the dreamer, we avoid *a priori* conceptions, and abstain from hit or miss questioning, our tests disclose the mutual aptness of inventorial items to rearouse each other, emphasizing the similar previous relationship that was part of the nerve reality underlying the dream.

'When one has applied the inventorial technique to the analysis of even a few dozen dreams, it is not long before one is overwhelmed with the conviction that one must discard, forever, the conception of a vague psyche that is supposedly capable of drawing up ready-made "symbols" fished from an indeterminate grab-bag of memory.

WHEN DULY ITEMIZED THE ELEMENTS COMPOSING DREAM READILY CONFORM TO MECHANISTIC CONFIGURATIONS

'So definite are the bizarre and nonsensical fabrications of the dream, that even their disorder can be accounted for on the supposition of a definite retraceable *dis*-location in a specific, and by no means senseless, train of thought. In fact, the analogy of a chaotic pile of jackstraws does not always do justice to the nature of that *dis*-location. It may be even more definitely represented as a sort of "tangram effect" closely resembling in its properties the Chinese puzzle of geometrically folded paper called tangram. Under the tangram scheme, portions of the sheet of paper when cut apart can be pieced together again into a new mosaic arrangement conforming to a geometrical pattern. Sometimes a very slight rearrangement of senseless items taken from a dream narrative and placed in a new order will give an entirely different configuration to the narrative as a whole and will remove all implication of absurdity. A good example of this is the shuffling of seat assignments in the Dream of the Blinded Eye. The double-jointedness of dream items that is observable in practicing the inventorial technique leads us to conclude that the dislocations of the dreamer's train of thought are, philosophically speaking, of an order quite as mechanistic as the commotions so familiar to the eye through those kaleidoscopes where the glass chips are watched as they tumble about in ever renewed patterns. Supporting this conclusion, we find, in special cases where the conditions of going to sleep have been simplified, that the occurrence of the dream items in the train of thought can be mapped as a series of definite resultants showing the blending of associative forces in both the qualitative and the quantitative aspects.*

'This investigation showed that Wundt's conception of psychic resultants can be applied more definitely and more accurately than has hitherto been supposed.'

Another of the professors of psychology interrogated the speaker, asking him to indicate more specifically what was meant by "resultant."

*Cf. Wundt on Psychic Resultants, cited p. 186, Journal of Abnormal Psychology, June-September, 1921. (W. Wundt, *Outlines of Psychology*, p. 232 et seq.)

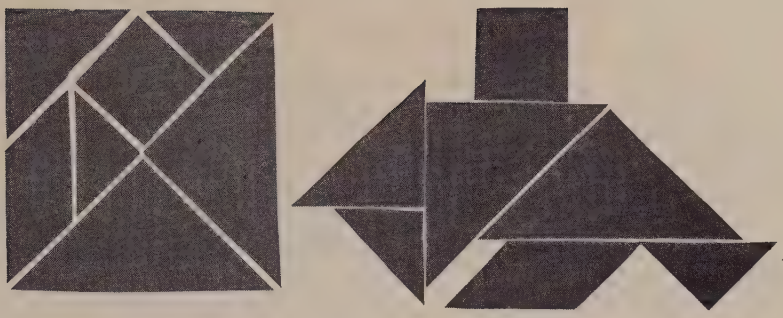

FIG. 18. The tangram square cut into its seven sections. FIG. 19. At right, the sections have been reassembled in a more or less accidental combination suggesting "whippet-tank going into action"

Even playful study of tangram combinations reveals much concerning the process of naïve apperception as well as the possibilities of conscious interpretation.

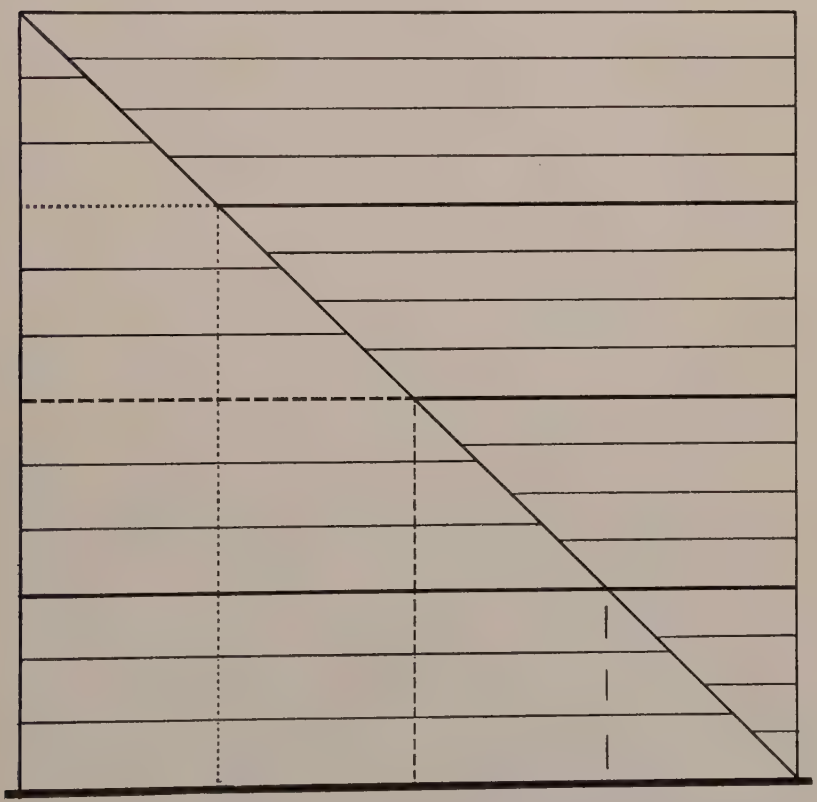

FIG. 20. Two right triangles are juxtaposed at their hypotenuse (the diagonal line). They are lined off according to two different scales (¼ inch and ⅓ inch), thus exhibiting both coinciding and non-coinciding graduations. Coinciding points are emphasized by vertical lines. This diagram really combines the coördinates of René DesCartes and the scales of Pierre Vernier. Hence, it may be called a Cartesian Vernier

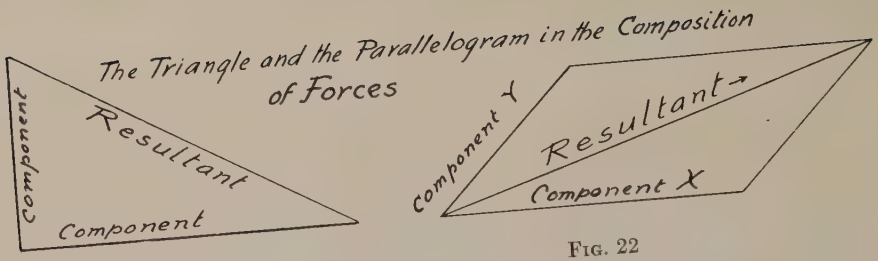

FIG. 21

FIG. 22

Figs. 21 and 22 lead up to Figure 24, for plotting psychic resultants on the plan of a Cartesian Vernier (Fig. 20), which adheres to the concept of a frame of reference (Fig. 23)

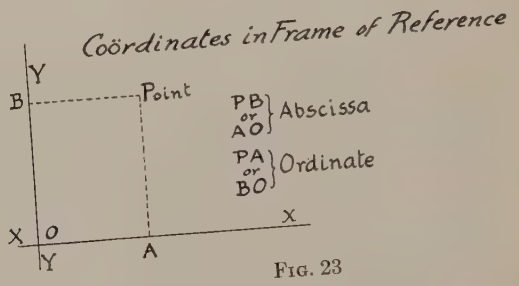

FIG. 23

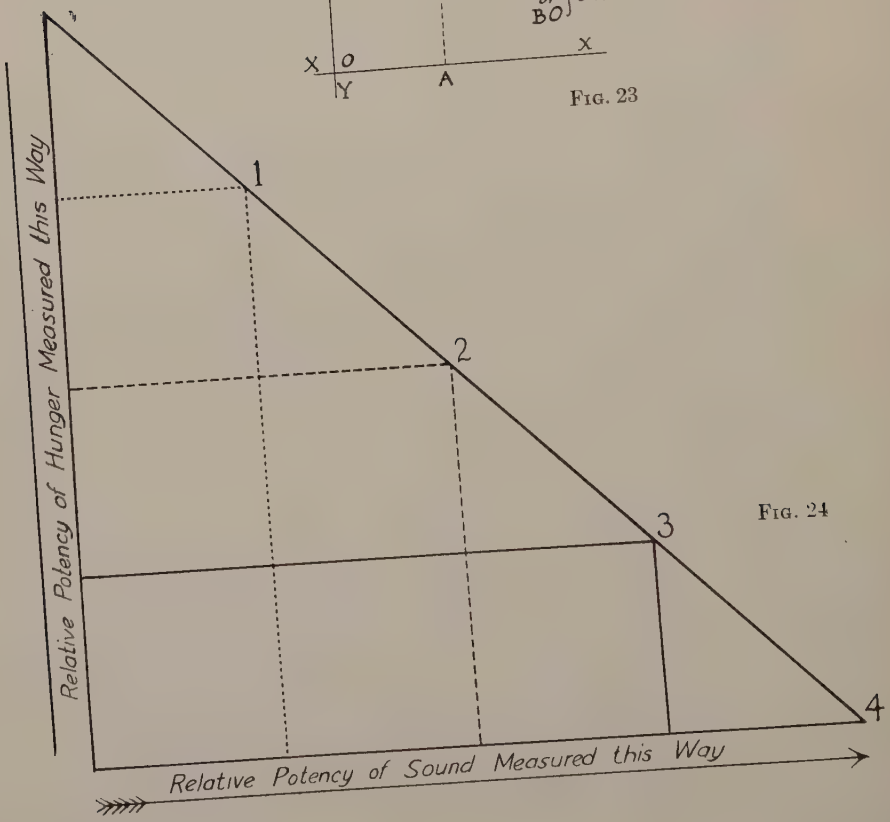

FIG. 24

ITEMS ARE OFTEN SO CO-RELATED THAT GEOMETRIC DIAGRAMS CAN BE USED TO PLOT DREAM EVENTS

The blackboard was then employed to illustrate that the term was used primarily in analogy to the geometrical aspect of two or more forces regarded as working on a common point and establishing a final common pathway. More appositely, the term *resultant* implied a resolution of physiological states, a concept which H. S. Jennings had applied to lower organisms and which Jacques Loeb had depicted in his study of tropisms or tactisms, explaining them by very simple, almost mechanical operations. 'For instance, the position of infusoria or paramœcia in a tank of water can be controlled by electrical current to the extent that their protoplasmic motions and the agitation of their cilia are affected in a definite qualitative and quantitative way by the electrical current. Thus, there would result a specific distribution of the animalculae according to the varying degrees of electrical stimulation, and according to the sign and direction of the current. Similarly, in phototactism, or phototropism, the incidence of light upon sensitive spots in the epidermis of a moth would result in orienting the organism definitely toward the source of illumination. A strangely parallel reaction is found in the process of analyzing a simple dream, in so far as the cues actuating the phantasy seem to take on a quasi-mathematical function, on the principle of the law of resultants of forces, independently of those higher integrations of personality which we might call wish, inhibition or symbolism.

'This suggestion of a unit-functioning, of which larger thought-processes may be composed, bears an analogy to the discovery in physiology of the working of a single muscle-fibre.

'Some dreams may be subjected to a geometric diagramming by the use of Cartesian coördinates, which shows that the fantastic formations are reducible to specific inter-plays of force with a definite outcome or *débouché* in a particular direction; and that a series of such interplays with different outcomes at each stage can be followed in dreams—very much as a Cartesian curve would be plotted in its various phases.'

A triangular diagram having been put on the blackboard, it was indicated that the horizontal coördinate could be made

CUES OPERATING COINCIDENTLY FROM DISCONNECTED FIELDS MAY YET FUSE THEIR EFFECTS

to represent the influence of the principal cue in a dream, and the vertical coördinate to represent the accessory cue. 'Here, for the purposes of a two-dimensional diagram, we disregard the "facilitations" which may be considered to be the third element in the Frame of Reference. Then we think of each cue as a drive oriented in a certain direction and tending to reach a goal or produce a result on its own account—in other words, to be attracted to some certain point of memory.

'But when we consider that there may be two or more incompatible drives at work simultaneously under conditions where the one does not exclude or inhibit the other, we face the opportunity to observe them in the act of exerting a deflecting effect upon each other and working out a sort of final common path within a definable frame of reference. Now, seeing that principal and accessory cue blend their effects like the component forces determining the trajectory of—let us say—a rowboat crossing a rushing stream, we look for some way of plotting their working out in the form of a "resultant." '

An example was then called for.

In preliminary, it was made plain that only in favorable cases is it particularly easy to see how two neuro-signals or cues, acting simultaneously upon the psychic field, can be conceived as producing a third thing called a resultant. 'Naturally, a brief demonstration of this, lending itself to a two-coördinate diagram, is not possible unless we choose a simple case. It seems, therefore, apposite to give an instance where the conditions were simplified to the experimental point. This paradigm is known as the Dream of the Pantry Cupboard.

'The dreamer, a man of thirty, takes a one o'clock train to meet professional engagements in a town that is distant by an hour's run on this non-stop express train. Having been forced to miss his luncheon, he decides to substitute a siesta for the meal. He thus applies very deliberately the French proverb—"who sleeps dines"—being glad of the opportunity to clear his mind of the sense of confusion and hurry developed during the rush to catch the train. Accordingly, he puts in

A DREAM ACTUATED BY HUNGER AND BY SOUND ILLUSTRATES MUTUAL WORKING OF TWO CUES NOT OF SAME ORDER

practice the same technique of absolute relaxation, both mental and physical, that he has (in a psychiatric clinic) been engaged in training himself and others to practice. He falls asleep according to program; and he does not wake till his ears are assailed by the sound of the car wheels taking the switch and rasping on the curved rails leading into the trainshed at his destination. A dream occurs while he literally "wakes up to" the situation, as follows:

'The Dream: *I see a child, apparently six years old, in a plain brown dress with a short skirt, standing on a chair in front of a cupboard, the open door of which reveals the shelves within. The child's back is turned, while it reaches above its head to replace on a shelf, a jam pot, from which liberal sustenance has been taken, as evidenced by the jam-bedaubed hand and the cheek in profile. Suddenly, the child turns from this business, as if caught in the act*—flagrante delicto—*bringing into full view a surprised and horror-stricken visage. The emotion thus portrayed is one I (as dreamer) soon come to share, as an apprehension justified by an unearthly screech apparently emanating from outside the pantry, first as if from the kitchen nearby, and then as if from outside the pantry window. Finally the sound seems to hover about in unlocalized fashion.*

'He then awakes to the stridulant and screeching noise of the car wheels grinding on the curve, as they turn into the station-yard at his destination.'

It was proposed to graph the oniric events above recited, in a manner to exhibit the play of two drives actuating this dream, emphasizing the continuity of neural operation by these drives while displaying the fact that their mutual summations at different stages would provoke variations in mental imagery, or tableaux occurring as psychic resultants.

The events unrolled in the dream panorama were then plotted along the diagonal line at successive points, representing the loci of conjunction of the separate drives, these being referred to the coördinates. 'The respective distances from each locus to the coördinates may be regarded as a measure

of the affinity between cue and recall. It might also be possible to use the suggestive phrasing of W. McDougall when he speaks of "the law of the attraction of the impulse." For, presumably, each cue is casting neuro-impulses through the associative channels in more than one direction. But certain points of memory prove to be effective working points of attraction, in so far as a mobilization of memory may be said to take place there. This mobilization is determined by the conjunctive effect of the two cues. Where there is no conjunction, there is no mobilization.

'The diagram as a whole shows the preliminary stages of the recognition of the sound.

'We may say that each tableau of the dream as plotted on the diagonal line is determined by the compound attraction of the impulse exerted by the two cues.

'The ratio between the two attractions of impulse at stage number one (tableau of a child eating jam) is represented by the dotted abscissa and ordinate which meet at a point under the figure 1. At this point, the potency of sound, measured horizontally, is one-third that of hunger, measured vertically.

'Although it is a sound that is being presented to the organism as a stimulus calling for recognition, yet the reaction (psychic resultant) is under the influence of the major drive of hunger, as revealed by a tableau of a child engaged in stealing sweets from the cupboard.'

It was objected at this point by one of the psychologists present that hunger was not actually a *major drive.*

To meet the objection, it was explained that what it was intended to say (when referring to the cue of hunger) was that, at the beginning of the reaction, hunger wielded a major influence in determining the imagery. The propriety of the objection was fully acknowledged as follows:

'The drive operated by the sound of the wheels and imitative of a fearful cry of an animal is really the *major* drive because ultimately it became preponderant, asserting itself by a persistent action from the environment, and being thus truly a *force majeure,* as indeed the diagram represents it to be, at the last stage of this dream. Even so, *major* and *minor*

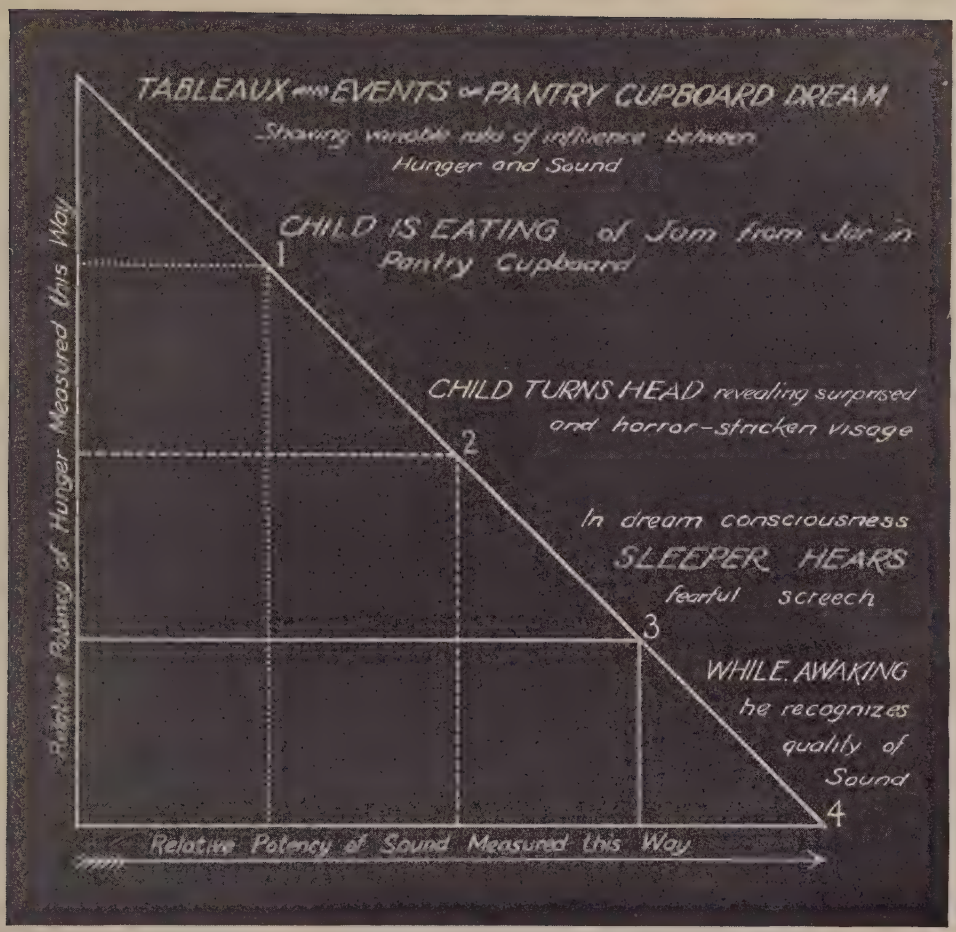
TABLEAUX AND EVENTS OF PANTRY CUPBOARD DREAM
Showing variable ratio of influence between Hunger and Sound
CHILD IS EATING of Jam from Jar in Pantry Cupboard
1
CHILD TURNS HEAD revealing surprised and horror-stricken visage
2
In dream consciousness SLEEPER HEARS fearful screech
3
WHILE AWAKING he recognizes quality of Sound
4
Relative Potency of Hunger Measured this Way
Relative Potency of Sound Measured this Way

FIG. 25. The various events of the dream are attributed in turn to the action of coinciding streams of influence from two sources. The diagram takes advantage of graphic methods which are conventional in the field of mechanics and mathematics. Figures opposite pages 122–3 show the underlying concepts relating to time, force and coincidence. The whole system of diagrams may be said to have forged a chain of graphic reasoning that tends to link the phenomena of apperception with fundamental mathematical conceptions

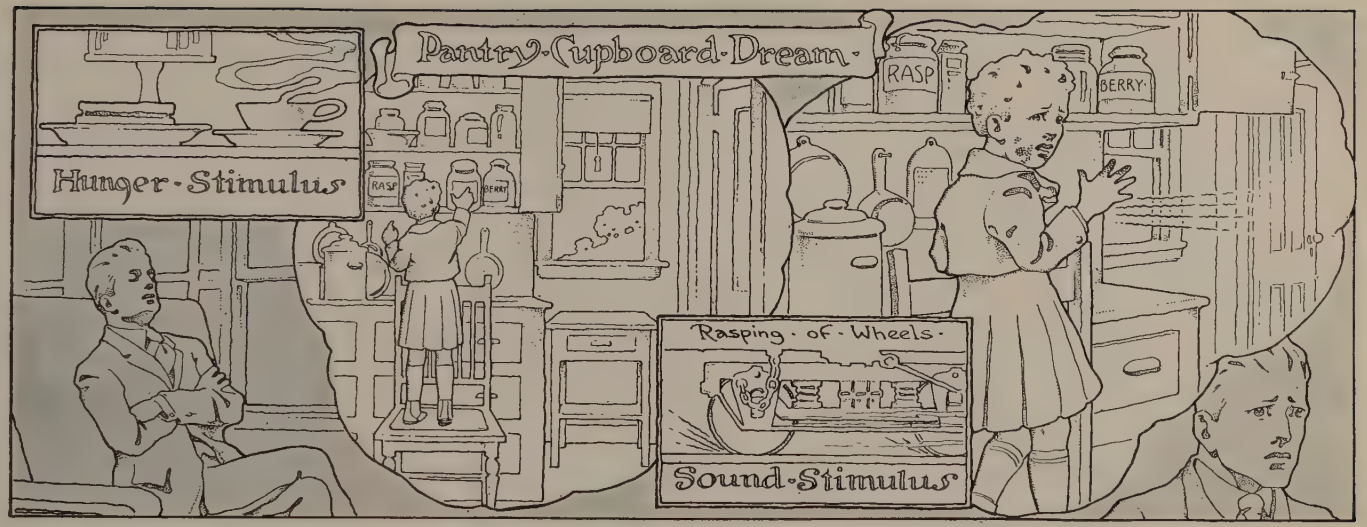

FIG. 26. Why seemingly unrelated images form the dream is illustrated by the action of two known cues in stimulating the apparatus of memory. The almost unbelievable accuracy of this mechanism is illustrated by the successive evocation of images distinctly related to both cues. First, the imagery is related to *hunger* with no suggestion of *sound* in the picture. Then there is a second stage where the *sound* is represented to the child as a horrifying screech suggestive of terror. Finally there is the man's awakening to the realization that the train's wheels are *rasping* upon the curve. The visual imagery at each step of this dream was evidently much influenced by the relative intensities of the two stimuli according as the dream progressed. This ratio is represented by an index of relevancy and conforms to a geometrical diagram showing the summation of stimuli that called forth in turn each phase of the dream. . The same sort of exactitude is to be found in the levitation dreams, or in any dream observed under favoring conditions

could be conventionally applied to the attractions of impulse, (paired off in the present frame of reference) merely to assign temporary quantitative relations, represented serially by the three of four plottings of the changing ratio between the abscissa and the ordinate. The abscissa (horizontal measurement) would continually stand for the potency of the sound impulse relatively to the potency of the hunger impulse as identified with the ordinate (vertical measurement).

'The relation between abscissa and ordinate tends to become a convenient expression or index of the degree of relevancy of the organism's response to the principal cue (sound) under the modifying influence of the accessory cue which may be viewed, in this case, as an interference with recall. It is to be noted that, at the beginning, this ratio or index of relevancy had a value of one-third (or one to three) as indicated by the dotted line at stage number one. Later, as the principal cue asserted its force (and its right to be considered a drive by *force majeure*) this ratio was reversed to a three to one relation in favor of the principal cue. Another way to state the same fact is to write a fraction thus:

$$\text{Relevancy to Hunger Cue:} \quad \frac{\text{Vertical Coördinate}}{\text{Horizontal Coördinate}} = \frac{3}{1}$$

$$\text{Relevancy to Sound Cue:} \quad \frac{\text{Horizontal Coördinate}}{\text{Vertical Coördinate}} = \frac{1}{3}$$

'In phase number 2, the child (still in the pantry) is surprised and horror-struck, in emotional consonance with the sound's timbre; there is an equality between abscissa and ordinate, as shown by the broken lines. The index of relevancy is then one to one or, more precisely, two to two as between hunger and sound.

'The child, under these circumstances, is pictured as fearful because the shrill noise of the car wheels was indeed a *fearful screech,* as the dreamer self-consciously discovered at the last phase.

'In this tableau the dreamer was a mere impassive observer of the fear depicted on the child's face, and remained quite unwitting of the sound stimulus which was acting subliminally

CONCEPT CALLED FRAME OF REFERENCE GIVES RAISON D'ETRE FOR DYNAMIC FADING OF ANY SIGNAL FOREIGN TO SITUATION

through the associative bond of fearfulness. It was as if a neuro station, representing a category of fearfulness, were receiving the vibrations of the fearful sound and relaying or neuro-casting them as muscular tremors which, in turn, were transmitted to the dreamer's consciousness but obtained their first amplification only as action-patterns assigned to the child's countenance. This form of explanation would serve over and over, hundreds of times, to depict time relations in the delayed arrival of the perception corresponding to an actual cue, while its false apperceptive shadow was being cast before.

'In the third phase, we have a tableau of a fading kitchen door and pantry window through which the awful sound seems to travel to the dreamer's consciousness and predominates in the dream atmosphere. Here the index of relevancy is three to one in favor of the sound, as shown in the unbroken coördinates.

'In the fourth phase (waking recognition of sound stimulus) the mutual operation of the principal and of the accessory cues passes beyond the realm of dream phantasy; this is expressed in terms of Cartesian coördinates as a relation of four to zero, since the abscissa has grown at the expense of the ordinate till there is nothing left of the latter. Mathematically, four over zero, like one over zero, represents infinity; in terms of the index of relevancy, this is a way of saying that the hunger stimulus has become infinitely unimportant and uninfluential in guiding the course of mental representation, or, in terms more mathematical, that the drive of hunger is now relatively and literally "of a different order of dimension."

'In any dream like that offered here as a paradigm, it is possible to plot the phases of situation and response in a manner to exhibit, with geometrical accuracy, the various stages of interference with recall. In such a simple frame of reference, it is practicable to map the organism's progressive discrimination between the non-essential stimulus (such as mild hunger, as in this case) and the essential sound stimulus. This gradually frees itself from embarrassment or interferences with recall through a sort of trial and error process.

STIMULI OF PARASITIC QUALITY INTERFERE WITH NORMAL RECOGNITION OF PRINCIPAL CUE

'It is noteworthy that, when carrying this simple formulation into the more complex cases, it is found that stimuli normally "signal-ized" by the environment or arising from the promptings of initiative, are interfered with by other stimulations, which act parasitically, as it were. Commonly, they should fade into insignificance like the drive of *hunger* which was seen to drop into a different order of dimension from that of the principal cue. It may be remarked that this was illustrated not only in dreams more complex than that of the Pantry Cupboard, but in the life histories of psychoneurotics. These personalities, in their responses to life's demands, are continually compelled to make extraordinary détours of utterance, of feeling and behaviour, because they are deflected from the normal path, or final common pathway, through parasitic stimuli arising from various over-active memories. Such parasitic deflectors are homologous in their action to the accessory cue of hunger, the disturbing effect of which was traceable in causing a retardation in the dreamer's recognition of the principal cue of sound. For the understanding of the larger, more massive operations of personality, it is instructive that in simple dreams a trial and error process can be discerned whereby the interferences are got rid of, while there occurs a correspondingly gradual augmentation of relevancy in responding to cues. This is called *resolution*.' (**)

A further objection was raised to the effect that this was not the ordinary conception of trial and error.

In response to the criticism it was admitted that this aspect of the process of trial and error did not correspond to the ordinary conception. Customarily, trial and error was spoken of in connection with the learning process. 'Trial and error is thought of as involving repeated efforts, such as those of an animal trying to get out of a cage or running in a maze, with the ultimate outcome of a pathway being literally worked out by the animal to the attainment of its goal. This implies not only an external hunt for an exit, but the searching out of new brain-paths and is of interest because the animal has learned something through an attempted adjustment, or, as Hollingworth has spoken of it, has *stamped in* the successful

moves by the *oblivescence* of the unsuccessful moves. Such procedures lie within the pale of the ordinary conception of trial and error. Thus, the trial and error procedure may be treated as equivalent to the "elimination of false moves."

'While this is usually spoken of in terms of prolonged laboratory experiments, it should not preclude the application of the same conception to the almost instantaneous reactions of a dreamer attempting to "get out of" that kind of mental maze in which the sleep state has involved him! It might well be that knowledge of this special kind of trial and error process in the case of the human subject, capable of introspection, could connect the behaviour of consciousness in dreams with the behaviour of animals to a degree not, as yet, commonly anticipated.

'Let us consider the case of an animal in a cage, regarding only one process of attempted escape through a series of adjustments. In such experiments, we find that there is a perfectioning of response during that particular incident. That is, the response goes through stages which make it more perfectly adapted to the necessity of the animal seeking an exit. In the course of the attempted adjustments or trial and error process of finding the way out, we have a gradual discarding by the organism of those stimuli or elements of the situation which are not relevant to the goal, although they may influence reaction at the beginning or even embarrass it. This may be reflected in uncertainty or bewilderment; but soon the imprisoned animal struggles in one way or another to overcome the distraction of minor irritations and eventually gives attention to that which is of prime interest to the organism, namely the more effective clues to the means of escape. This has been observed to be particularly true as we reach the higher animals, such as the anthropoid apes. Now, speaking of parasitic stimuli—an animal that may be irritated by a flea-bite and engaged in responding to that, will soon disregard the flea-bite if it discovers itself to be in a perilous situation. Then the stimuli (neuro-signals) relevant to that situation will eventually govern activity by a *force majeure* exerted through innate or acquired canalizations; that means responding to

MENTAL GROPING IN DREAMS COMMONLY GIVES RISE TO A GRADUAL AUGMENTATION OF RELEVANCY

drives which are most advantageous to realizing the goal of the moment. These have been, in many cases, prepared and installed for the animal's self-preservation. The mobilization of the channels for the operations of those drives is what we call "waking up to the situation." Increase of relevancy or germaneness means that more and more of the nerve channels are mobilized that will serve for a debouching of nervous energy into some useful final common path controlling a group of end-organs. This is called success; and the preliminary processes are, in a given case, capable of analysis as approximations or irrelevant, imperfectly coördinated moves. None the less, these actions may show the influence of the several drives, forming peculiar and palpably ineffective combinations. To be sure, the concept of trial and error here being used is broader than that which is ordinarily considered worthy of elucidation in the usual animal experiment with a maze or a cage. A dreamer resorts to trial and error even more like a person fumbling at a Chinese puzzle than like an animal in the familiar experiments.

'This extension of the trial and error concept gives a basis for bridging the gap between animal behaviour and the mental behaviour of humans. In a dream, we can most effectively discern the dream fabrication as a sort of mental groping. This type of trial and error involves augmentation of relevancy to the true cues or situation. In ordinary sleep, this implies no more than the getting rid of inertia or other inhibitions consequent upon the loss of awareness toward the total environment which the going-to-sleep process has entailed. One might cite here what Bergson says about sleep as a condition of disinterest. He tells us this does not preclude attention to certain residual stimuli or residual apperceptions of the nature of interest; for example, a nurse watching for a sick child to wake, while she herself sleeps. These things properly fall under the category of *facilitations*. But where perfect disinterest in environment has been developed, as in the Dream of the Pantry Cupboard, the field is cleared for us to see the interplay of cues like sound and hunger when they are unembarrassed by a group of facilitations.

APPERCEPTIONS OF DREAMER RESEMBLE TRIAL AND ERROR MOVES OF IMPRISONED ANIMALS

'We have now shown in this diagram the deflecting effect of a parasitic cue, named the accessory cue in this case, and, for fullness of statement, it should perhaps be said that its being brought into play was not a sign of any great energy at work but is perhaps best explained as an overflow of impulses reaching and reinforcing the hunger drive that was faintly present. The cause was the spill-over of stimulus from the exceedingly potent drive of the sound although this drive did not reach recognition until a lapse of time had occurred. Here we have a germ of the principle of time relations, which need not be fully gone into at this point, as it is covered in papers which have been presented. (**)

'To repeat, the diagram as a whole shows the slow arrival of the essential drive to successful recognition through a process of graduated improvement as to relevancy.

'In relation to dream phantasy, the application of a trial-error-success formulation compels us to consider the dreamer as engaged in the resolution of physiological forces expressible in the terms of dynamic action of the nervous system. The situation in which the dreamer finds himself, or to which his nervous system is subjected, sets in operation an indeterminate number of more or less important drives ranging from simple sensory to complex emotional and intellectual tendencies. Dynamically, however, these stimulations are of vastly different orders of dimension; biologically, they are of different degrees of importance to the waking concerns of the dreamer or to his necessary self-protection as an organism waking or sleeping. As a sleeper, however, he is to some extent in a cage, debarred from effective exercise of his capacities. This condition gives artificial importance, at the start of the conscious operations, to those stimuli or drives which happen to operate within the bodily limits and which disregard the true situation, as judged from a logical and realistic viewpoint. In a simple frame of reference, we can discriminate between the non-essential stimulus which has major influence at the beginning and the essential stimulus which gradually frees itself from embarrassment through a process like trial and error.

MECHANISM OF MENTAL TRIAL AND ERROR IN DREAMS FINDS PARALLEL IN WAKING LIFE OF PSYCHOPATHS

'The same principle may, however, be extended to the situation of a psychopath fantastically interpreting the environment or to an hysteric subject reacting in an exaggerated and disproportionate manner to some one fascinating stimulus or drive. This introduces the difficult question of reality as distinguished from phantasy. If, as Herbert Spencer suggests, the test of reality is persistence, then the chronic daydreamer or the semi-deliriant neurotic is failing in his adjustment to reality because he does not carry on the mental trial and error process successfully to the point of freedom from adventitious, misleading and parasitic stimuli. He stays in error so long as they operate to interfere with due and proper recall, or, more broadly speaking, as hindrances that prevent him from being true to him own information. Among the insane, I have studied several cases of the kind where the ostensibly waking subject was really in a chronic dream which it took months to wake him out of. This might be described as a sort of oniric delirium and, if my experience is not at fault, it furnishes important revelations of the trial and error process in the higher mental operations. It will be seen that the present theory of dreams is more applicable to explaining the general mechanism of thought than might be supposed from the context.

'This trial and error theory aims to furnish a foundation reaching down to bedrock operations in dreaming thought, but, above that level, it is capable of supporting a weightier contribution to the psychology of thinking. Unfortunately, the presentation of the more complex cases is beyond the compass of present arrangements for publicity or instruction. Simpler illustrations must suffice. At the same time, it is not necessary to descend to the misleading simplicity that Freud adopted when he chose perhaps the most potent of the impulses by which humanity is beset—the sex impulse—as that upon which he should center his most striking demonstrations of the theory of wish fulfilment. Freud falls into errors by what Bacon has described as a habit of counting the hits but not counting the misses.

'In work with a representative group of subjects, it has

been found in this investigation that sex is by no means the most interesting or instructive source of drives; besides, the very subject-matter lends itself to unclear methods of exposition. On the other hand, dreams in which very primitive functions furnish the dominant drives give fruitful illustrations of the trial and error process. In particular, dreams of hunger and thirst and dreams stimulated by various processes throughout the length of the digestive tube, furnish abounding instances of the trial and error process by which the dreamer gropes his way to the goal of his drive or drives.'

A question was put as to what proportion of dreams are somatic.

The answer was made that perhaps the simplest or least confusing way to express the proportion was to call it a one to one proposition or a relation of fifty percent each to each, as between somatic and psychic influences in dreams. Half of the dreams might be said to be determined mainly by somatic cues and half of them mainly by psychic cues. But a large proportion of somatic dreams, that is to say, dreams which should be attributed to influences external to the nervous system and not to something like a wish, were apt to be overlooked because of the seeming remoteness of the response from the source of the cues, thus fastening the interpreter's attention only upon the portion of the reaction that would appear to be governed by psychic drives. Yet these proved often to be only mental facilitations that merely happened to coincide with the application of the particular somatic cue or signal which furnished the true occasion for the dream and filled the office of "principal cue."

'In a great many more cases than is supposed, the course of the dream should be regarded as really an apperception of a principal cue derived from somatic sources, the operation of which is only gradually revealed while the organism is getting rid of the interferences with recall caused by adventitious or parasitic stimulations. This has been largely overlooked; and the scientific literature on dreams is replete with instances where fantastic meanings have been given to dream items, when a little knowledge of this principle of physiological

response would have revealed a definite bladder origin; *e.g.*, in such items as golden vases, arabesques, or yellowed newspapers, all reminiscent of the circumstances under which bodily needs are relieved. Now, if this sort of thing is entitled to be called a wish, then this is the stretching of a term beyond the ordinary acceptation of that which is implied by psychic activity. And if we turn to the sex theory, we shall find that trial and error reactions to abdominal sensations are often mistaken for a preoccupation of thoughts about the topography of the sex function, misread in turn as symbolizing a libidinous wish.

'An actual bodily need such as hunger or micturition might lead to a conscious wish eventually; still, where such a drive operates in sleep and manifests itself by trial apperceptions of the ways and means to satisfy the need, we are entitled to call this a somatic dream. But, if it is contended that such dreams are wish fulfilments, then almost any self-preservative reaction is a wish, and the topic would have to be thrown over the fence into the field of definition, where Freud so often tends to land his conclusions, through lack of any proper philosophic foundation in the beginning.'

With reference to the samples of dreams, it was pointed out that seldom in any given dream can one exclude from consideration either form of stimulation (psychic or somatic) as a factor of importance in accounting for the phantasy.

The Chairman of the meeting then requested that it be explained what had been the object of the "fair sampling" of dreams, as submitted in Book II.

It was explained that the particular sampling of dreams was made with the object of representing as nearly as possible the typical or average nature of dreams. The method of sampling was the working out of general suggestions from Professor Cattell and from Professor Woodworth to the effect that a limited and hence more easily manageable and presentable number of dreams should be submitted in such a way as to fulfil the conditions of a fair sample. The dreams here presented were not the ones on which the theory had been based, and therefore they could serve all the better as a check

REPRESENTATIVENESS OF ANY COLLECTION OF DREAM SAMPLES RESTS UPON THE FAIRNESS OF THE METHOD OF SELECTION

upon or demonstration of the application of the trial and error theory; this had been previously established in the mind of the investigator and of his selected subjects and collaborators by the utilization of much more extensive and, in many ways, quite differently studied sets of dreams. 'Thus, the Individual Catalogue and the Random Selection, both of them picked by a process embodying a principle of random choice, yield a measurement for the applicability of the trial and error theory. As a result, the analysis of this fair sampling may be considered to be a forecast or a sort of prolegomenon for any series of dreams similarly collected in the future. In contrast, Freud's examples are not strictly fair samples of the average run of dreams, being largely drawn from clinical subjects or from people living under highly specialized conditions such as the life of Vienna.'

One of the members of the Committee asked whether, after all, the selections were strictly fair samples, in view of the fact that one of the subjects who furnished a large proportion of the dreams presented was a scientist and might be supposed to have dreams of a character differing from those of the average person. Could not the same objection be urged against them as against Freud's samples?

The answer was made that Dr. Chara's dreams were chosen because of the likelihood of their mechanism being unimpaired by the scientific bias. It was true, however, that they were very much colored by the interests of the dreamer even as we might expect any professional interest to color the dreams of any subject. For this feature, full allowance had been made by studies of other types of professional workers whose professional interest likewise colored the dreams; but this coloring was a constant mechanism in a large proportion of dreamers and its occurrence did not falsify the conditions under which the dream mechanisms had been analyzed. It was rather to be regarded as adding to the representativeness of the dream. As compared with Freud's samples, it simply introduced into the dream life of the subject a wholesome vocational interest in contrast to an unwholesome psychoneurotic preoccupation with some form of sex. Such a vocational

interest as this physiologist developed had only made it easier to follow the thread of his dreaming thoughts when the dreams and their interpretations came to be presented for criticism to a group of scientists like the present one, who might not as readily follow the course of the dreamer's phantasy if it dealt with the occupational concerns of an artisan or of a commercial traveler or with the idiosyncracies of a psychoneurotic. Accordingly, it was arguable that the existence of an occupational interest on the part of Dr. Chara had not constituted any bias tending to weaken the representative character of his dreams, these having been recorded for the most part naïvely in youth. Moreover, the fairness of this sample as an individual collection did not lie in the fact that the dreams were of a particular type; but that the dreamer was of a representative type, including even the existence of a wholesome professional interest, which would be admissible and almost unavoidable in any representative case. Dr. Chara's dreams scarcely differed from the dreams of the average normal person except in the fact that the incidents in his scientific life were very largely reflected in the narratives thereof. 'In other respects, the dreams do exhibit the normal types of association. These are all the more easily detected by physiologists and psychologists because the dreamer happens to have woven his tissue of thought, however far-fetched, out of materials drawn from the standardized existence of the biological laboratory. But this situation has not, in any sense, affected or altered the marked normality of the dreamer's *psyche* as a whole, or warped the feelings of this young man, advancing in his profession as a teacher of biology and disposing his mind to marriage and to the rearing of a family. The distribution of his interest was just about what any average person's would be, and his dreams showed representative deviations or vagaries in the pursuit of his goals when his thoughts were agitated in sleep; that is, when he was engaged in *resolving the unadjusted.*'

One of the professors of psychology asked for a summary of the findings regarding the question of symbolism, such as would prove relevant to the material submitted in the fair sampling of dreams.

THE PSYCHOANALYTIC DOCTRINE OF SYMBOLISM IS CONTRADICTED BY UNCONVENTIONALITY OF DREAMER'S THOUGHT-LINKAGES

In reply, the point was made that the samples submitted, and in fact the whole course of the present investigation into dreams, tended to show that, barring a few special cases, the alleged "symbols of the Unconscious" were an artifact. Yet, the fiction of regarding the dreamer as symbolizing his thought might be called a very convenient and helpful, although rough and ready, way to depict certain modes of the mind-play called dreaming. The term Subrogation had been employed in the running comment to avoid the somewhat false issues that had become attached to the term Symbolism. The observed substitutions of the wrong reaction for the relevant and germane reaction in dreaming thoughts could be aptly described as "subrogate imagery". (Latin: *sub* + *rogare.*)

'It may also be asserted that the notion of so-called Symbolism, as applied to the dream, contains a contradiction of terms, because the essential burden of thought carried by the word "symbol" is derived from the concept of conventional habit; but the observance of the usual conventions of thought or of settled usages is precisely what is strikingly impaired in the dream; and it is the violation of the expected and usual thought-linkages that challenges the attention of anyone listening to a dream narrative. To justify the word Symbol, the psychoanalysts presuppose a more or less mythical background in an archaic language of the Unconscious. Yet the present studies have so far not revealed any reasonable ground for accepting such a dream code. To be sure, a dream, however absurd and bizarre it may be, is not entirely freed from the ruts of conventional speech and thought. One should make allowance for the fact that the dream images retain a certain allegiance to the reality of past experience even if their interplay among themselves is often absurdly at variance with our actual waking habits of association. It is rarely that the dream is so untrue to waking experience that we fail in our dreaming speech to employ the conventional rhetoric of our mother tongue. But all this means only that we have retained in part, at least, the conventional linkages of thought, which have become automatic. For the rest, the violations of rhetoric and the departures from relevancy and germaneness

IMPAIRMENT OF THINKING IN DREAMS COMES UNDER HEAD OF APPERCEPTIVE ERROR AND NOT THAT OF ARCHAIC LANGUAGE

and congruity in thought are the impairments of mental association that constitute the problem of explaining the dream. And, contrary to the Doctrine of Symbolism, these lapses cannot be accounted for as borrowings from a pre-established system of cryptic and enigmatic paraphrases handed down from some archaic culture belonging to the Unconscious. It is far better to explain these lapses by saying that *the dreamer made a mistake* and got his ideas and his images mixed, or "scrambled," to use a term of telegraph engineering. A "subrogation" results because of a confusion in his brain patterns that has attended the agitation of his conscious field by whatever stimuli or cues sufficed to provide the necessary physiological summation. Viewing oniric lapses in this way makes it more possible to consider the precise mechanism of those errors and to trace them back, with fruitful results, to a past state of mind, the reconstitution of which may confer a vital meaning upon the interferences with recall that are detected in the dream. As a result, trains of thought that have remained below the threshold of awareness are disclosed. To say that such a train is symbolized by the fragmentary evidence that puts one in the way of its reconstitution would, in most cases, be as absurd as to say that an outcropping ledge of weathered stone in a landscape symbolized the whole geological stratification to which it belonged. In a practical sense, there is at times no marked difference between the quick results attained by the method of symbolical interpretation and the method of reconstitution. But those cases are the exception and do not disprove the rule that accurate mechanistic analysis is the only safe way to guard against an error in the imagination of the would-be interpreter.

'An immense number of mechanisms of erroneous thinking in dreams have been considered in the course of this investigation. By going over the interpretation of various dreams many times it has been possible to arrive at a fairly satisfactory classification of the types of confusion that are to be noted as a by-product of the trial and error process of the dreamer. One of the steps in such a classification was to find names to refer more precisely to the things that have

been called "symbols" by the earlier psychoanalysts. For instance, the erroneous substitution of one similar character for another, such as *the dreamer's brother* being put in place of the dreamer himself, involves a minor degree of subrogation. The real character in mind is called the *orthotype,* while the subrogate image (brother) is classed as *allotype.* When a certain dreamer was shown to have been dreaming of himself in two aspects according as his fancy pictures (1) a farmer catching (2) a fox and placing the animal in a cage, the *farmer* image constitues an *allotype* and the *fox* image is called a *metatype*—the latter term expresses the greater degree of metamorphosis in the process of subrogation. This dream meant that the studious side of the dreamer was trying to control his frivolous side, which tended in the direction of night life in New York.

'Where the thing thought of by the dreamer is presented in the narrative without any marked change from its original but with some deviation from it, the subrogation is conveniently named a *paratype,* as when an individual is represented to be tall in the dream who, in real life, is not so tall. Other examples of the varieties of *pseudotypes* or false representations in the mind of the dreamer will be found in the Commentary (Book III). It should be mentioned, however, that the extreme aptness that characterizes the subrogations (or shifts from accurate response) comes very near, at times, to convincing one that there is something like true symbolism in the process of oniric fabrication. The two fighting dreams at the end of the Random Selection (Book II) would tend to support the doctrine of symbolism had they been offered for study in the midst of a mass of dreams of the same kind. But one should not be deluded by those exceptions which enliven the dream with instances of something akin to the inventiveness of an artist in allegorical paintings or akin to the clever opportunism of the inveterate punster. These exceptional instances must be regarded as due to fortunate or "happy" coincidences.*

*The finding of such coincidences is not far removed from an experience I had in University Hall at Columbia as I was walking with a

ALLEGED SYMBOLS ARE NOT DISCOVERED TO CONSTITUTE A LANGUAGE OF DREAMS BEING MAINLY OPPORTUNISTIC FABRICATIONS

'In dreams, certain of these concatenations look like some chimerical "language of dreams" pre-established in the unconscious; they are often startling to the investigator and lend themselves to what, for the time being, seems like a demonstration of the doctrine of symbolism. Such doctrines, it would appear, are destined to be gradually eliminated, in the measure in which students become more familiar with the varied reactions and mechanisms involved in the process called *subrogation.*'

The next and final crucial question regarding the theory of dreams as here presented was asked by a member of the Department of Physiology. It took the form of a request that the use of the term "canalization" be explained in relation to dreams.

In reply, canalization was described as the formation of a path of special directional character in the network of the association areas or other higher segments of the nervous system. 'Theoretically, all such portions of the nervous system are accessible to each other, but actually they become canalized to afford more easy flow in particular directions. To say, as some teachers of Neurology do, that every neurone is potentially accessible to every other neurone, is not the same as to say that there is canalization. Stimuli are more directional in their paths of arrival and focusing than has been contemplated from the ordinary viewpoint of physiologists or psychologists. In support of the newer view of precise progagation of neuroimpulses, Sherrington points with wonder to the remarkable graduations controlling the relation between stimulus and

friend through the corridor. On the floor, I noticed a startling picture, as if drawn in white. It was an excellent copy of the caricatures of William E. Gladstone in *Punch*. That is, it represented his sharply drawn countenance and the exaggerated peak of his collars with the art that Furniss has brought to the highest perfection. I bent over the design and found it was a piece of white cotton string—a single piece that had coiled and zigzagged itself into this pattern as it fell. The vividness and aptness of the lines, as an imitation of Furniss' caricatures, was confirmed by copying it with a pencil on the spot. It was not a momentary apperception of the beholder, but a sort of facsimile, fabricated by the chance play of gravity upon a piece of string.

response, as observed by him in the scratch reflex of the guinea pig.

'It may be presumed that a neuro-signal can reach and revive any particular trace of memory with which it has an experiential affinity, afforded by the fact that a special channel of connection has been pre-established in the nerve system. Although it is arguable that, in the field of mental association, "all roads lead to Rome," yet the most effectual paths are definite canalizations of nerve impulses; and this consideration must eventually be translated into patterns of nerve filaments or fibrils. In the higher regions of the brain, we do not have to think of such canalizations as confined to particular nerves in their trajectory.'

Subject to approval or correction by the neurologists present, it was asserted that nerves are but permanent rights of way affording a variable trackage for the switching of impulses through the finer units or individual neurones. 'The fibres may become connected to form uncounted lace patterns traversing the various nerves and providing highly individualized canalizations of impulses. The particular canalization patterns tend toward a focus at some point of effectiveness (*débouché*) in muscle, gland or, conceivably, in a conscious image.

'The term canalization involves an historical allusion to the first modern conception of the functions of the nerves, without which one can hardly make clear the recent exploitation of the term. Reverting to the old idea of the flow of animal spirits, it would be fruitful to employ a modification of the canalization scheme originated by DesCartes for the purpose of describing the properties of the nervous system.

'DesCartes regarded the nerves as little pipelines carrying the animal spirits from one point to the other under the control of a central multiple-way valve which he identified (in an ostentatiously arbitrary manner) with the pineal gland. The conception of a nerve channel as a canal (cannula) was fully established by him in analogy with the ingenious displays of waterworks in the parks of the French chateaux of his time. He mentions the fact that, on some of the estates, the hy-

CANALIZATIONS CONCEPT OF NEURO-ACTION HAS BENEFITED FROM DESCARTES' HYDRAULIC ANALOGY

draulic engineers had arranged pipelines so that a visitor strolling through the grounds and beholding the figure of a water-nymph bathing in a pool, would, on reaching the edge of the water, be surprised to see her discreetly and piquantly retire behind a bush. This behaviour was to be explained as the effect of a switching mechanism operated by the footsteps of the strolling visitor whereby certain pipelines would be opened and irrigated to the degree necessary for operating the mechanism effecting the movements of the statue.

'Claparède took pains to point out some years ago that this scheme was still the best available. In psychology, he said, it is perfectly practical to dispense with an undue consideration of the complexities of the neuro system in our mapping of its operations and to fasten our attention upon the element of simplicity that is embodied in the existence of neuro-conduction channels of the mechanistic order of pipelines.

'In the present-day study of nerve conduction, we still speak of "nerve channels"; but too often we lose sight of the wider implications of the pipeline aspect and we do not carry to fruitful use the concept of interacting conduction paths. Therefore, it has been necessary here to emphasize the canalization concept in order that the possibilities of multitudinous permutations and combinations among switching facilities should be more definitely carried in mind.

'DesCartes' famous waterworks analogy assumed that the different stimuli at work upon the organism, whether simultaneously or in succession, would determine the rotation and inclination of the pineal body, which, acting as a valve, would carry out switching operations. According as it shifted, the animal spirits would be led through certain openings or ports in the valve, thus forming a connection with particular pipelines. Into these the animal spirits would pass "like a rapid wind or subtle fire" following these elongated pores to some locus or *débouché* of excitation where, in turn, there would be determined a dispersal of the animal spirits (as with gas behind a piston) in the act of arousing some particular motion or thought corresponding to or responding to the neurosignals actuating the gland.

ORIGINAL CANALIZATION CONCEPT DID NOT PRECLUDE ACTION OF SOUL BUT DEPICTED REFLEX ACTION AND AUTOMATISMS

'In this train of reaction, the immaterial soul played at times a part but it was not necessarily a wholly determining part; as DesCartes wished to leave the field of explanation open for the concept of Automatic Action, with particular insistence on the idea of what he named (by analogy with light) Reflected Action or reflex-action. Some mentation, involving the rearousal of traces canalized by past experience, was supposed to go on automatically, while governed by the gland acting like a reflex center. For he portrayed the animal spirits as being propagated from outlying points toward the gland and thence again reflected to some point of action through the gland's intermediate switching activity. Such functioning was capable of being maintained by wholly depending upon the previous dispositions of the canalizations that had been retained as after-effects of past experience, or of innate development.

'The cleverness of DesCartes' visualization would be difficult to present without reproducing the full text of his work; but it is adequate to say that DesCartes had developed a scheme not unlike the dialing system of our telephones. That is, a process of machine switching would take place in a manner to cause the central gland to open a channel or duct leading to a particular point, according to the signals impressed upon the pineal body by due arrival of impulses from the outlying receptors.

'We retain in the present diagram the simple idea of the concentration of animal spirits at some locus of memory, in accord with the stream of impulses re-directed through the pineal body. This aspect of its switching capacity is here skeletonized in the form of Cartesian coördinates, which depict a frame of reference.

'This diagram, however, widens the compass of DesCartes' scheme in that it is plotted to depict a specific, graduated flow of excitations, as if they issued from two sets of outlets converging upon a terminal focus. Still, it would be true of both schemata that a certain accumulation of force at a particular focus is the prerequisite condition whereby a memory-trace becomes aroused to such degree of activity as may be necessary

to affect consciousness. But we must remedy the exaggerated simplicity imposed upon DesCartes by his times; it was provisional, and it left room for more details of the intimate mechanism of switching.

'DesCartes' actual statements imply such a delicate adjustment in the pineal gland itself, as a mechanism reacting to signals, that neither he (nor anyone else till recently) was able to illustrate it in detail. Today, the task of illustrating the machine switching process is simplified by the discovery of microscopists that most of the brain consists of fibres available to furnish the valves and ducts that DesCartes located schematically in the minute pineal gland.'

What had been earlier placed upon the blackboard as a geometric diagram had now assumed sufficient vividness and definiteness in the minds of all present to permit its continued use as a sort of physiological schema. This new aspect of the diagram made it desirable to consider each of the lines formerly used to represent ordinate and abscissa, respectively, as so many pipelines conveying excitation to certain foci of response which correspond to the evocations of tableaux of the dream.

'This diagram, considered as a whole, substitutes for the single uni-pivotal valve in the pineal gland the conception of two coördinate pipes provided with little valves opened at intervals, the streams issuing from which may find points of junction and mutual reinforcement.

'The pipeline concept involves a reversal of the usual mathematical convention in laying out abscissa and ordinate. In spite of this conversion of the diagram, each pair of connections would represent the fortuitous conjunction of two separate influences: (1) transmission of the hunger excitation and (2) transmission of the sound signal. They interact to form a resultant, because they have met (in the case of each pair) at a point of conjunction geometrically accounted for on the well-known principle of the vernier scale: according to which any two sets of regular graduations must, unless spaced exactly alike, come to points of coincidence at proportional intervals. Without going too deeply into the mathematics of the topic, we

MECHANISM OF PROGRESSIVE RELEVANCY LENDS ITSELF TO GRAPHIC PLOTTING WITHIN CARTESIAN COÖRDINATES

may emphasize the fact that the vernier coincidences deliberately employed by physicists in laboratory work, are impressive models of a convenience already provided by nature in the construction of the nervous system, which is an instrument eminently adapted to receiving delicately graduated impressions capable, in turn, of being led to play upon each other. This is shown in the diagram where, at each conjunction joining two different sets of neuro-ducts, a tableau is represented as having been "selected" because of its special degrees of affinity with both origins of cue.

'The ratio of cue influences must be separately explained.

'At the first step of the dream, we would say that the pipeline conveying the hunger signal (horizontal) was able to deliver a comparatively powerful stream of animal spirits in the given instant, while, through the longer pipeline issuing from the sound center (vertical), a comparatively small and ineffective stream was being conveyed, owing to the relative inaccessibility of the confluescence point. It will be seen that although the symbolism of the pipeline is the reverse of the Cartesian coördinates, yet the index of relevancy is represented in the same manner, and still depicts the relative influences of the two cues. Ordinate and abscissa have only exchanged rôles while we have converted the diagram into a picturesque relation between two currents of power. None the less, all linear values are retained.

'To recapitulate:

'At the start of the reaction, the stream was comparatively heavier from the hunger channels than from the sound channels and therefore the confluescence at point 1 is such as to call up a tableau mostly relevant to hunger rather than to *sound* . . . yet, as later it develops, there is a distinct sound canalization already at work, albeit rather weakly, to influence even this imagery.

'The dynamic conception of confluescence is that there is a sort of streaming of stimulus from each source to the different junction points, and that each different junction point (somewhere in the neuro-system) represents a definite threshold and a focal point for animating a co-relative memory.

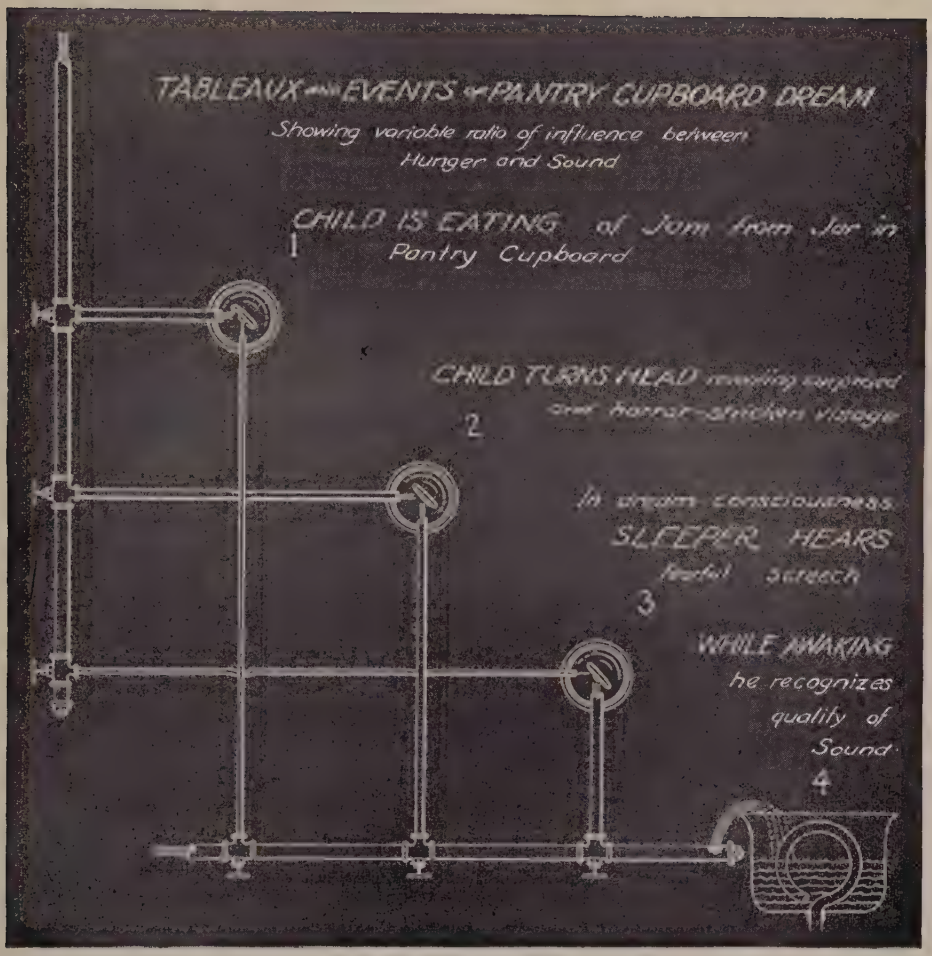
TABLEAUX and EVENTS of PANTRY CUPBOARD DREAM
Showing variable ratio of influence between Hunger and Sound
CHILD IS EATING of Jam from Jar in Pantry Cupboard
1
CHILD TURNS HEAD
2
In dream consciousness SLEEPER HEARS fearful Screech
3
WHILE AWAKING he recognizes quality of Sound
4

FIG. 27. To understand the full scope of this figure, as treated on pages 145, 146 and 147, it should be compared with Fig. 25, opposite page 126, and with Fig. 24, opposite page 123

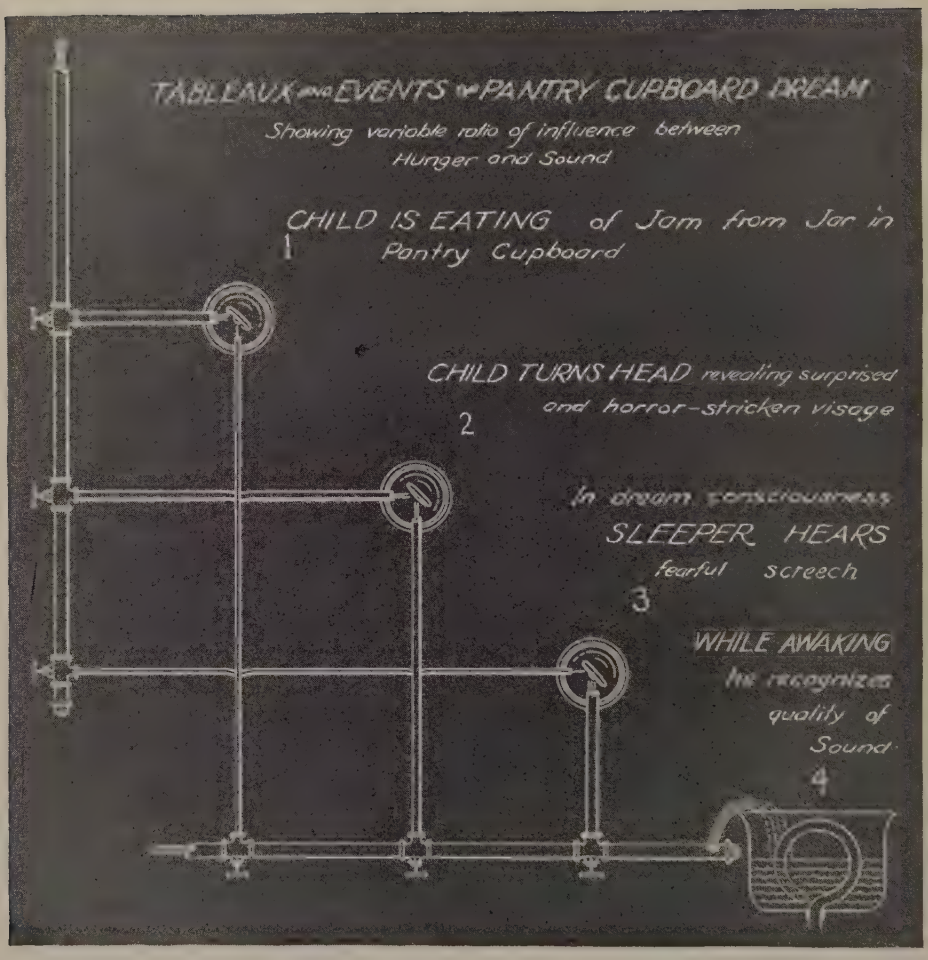

FIG. 27. The canalization diagram is here repeated for convenience in comparing it with the text and with Figs. 24 and 25

SEQUENCE OF TABLEAUX IN DREAMS ARE ACCOUNTED FOR BY MOMENTARY SUMMATIONS OF NEURO-DYNAMIC FORCES

One image prevails in consciousness because its substrate or focus is being more actively fed at the moment. Later, as the dynamic relationship changes according to the vernier conjunctions of the two sources, it is found that the point of maximum confluescence has been shifted from one focus to the next, as represented by the successive points 2, 3, 4.

'At 2, the pipelines furnish equal access to both flows; at 3, sound has the advantage; and at 4, hunger is shut off from effective access.

'Thus the diagram shows the ascertained fact that hunger was a waning influence, while the sound was a waxing one.

'The main point of either form of diagram is that two origins of force exert converging influences upon an outlying point where they determine a mathematically exact resultant in the form of a focal dynamic condition. This affords the basis for effector action at a terminus, in gland, muscle or thought—and this focus of dynamic "conditioning" is also in function of time and space values. The dynamic conditioning keeps pace with the shifting in confluescences and thus finds new points of focal summation.

'Now, to avoid scientific contradictions, it must be stated afresh that this focus is a dynamic focus, not a fixed spot.

'In deference to the conservative view of brain localization we must avoid the appearance of claiming that a focus of memory resides at some punctate locus. By focus and focal condition we refer mainly to a *point of arousal* in the aspect of time and force. This is shown by the length of pipes, the sum of which is constant, as if there were some standard summation to be attained or measured up to. Actual location is only diagrammatic. It reflects only dynamic summation in relation to time of conjunctive effect and in relation to the attainment of a climax of quantity.*

*It is not intended to suggest literally by placing the confluescences at the geometrical point or at the junction of two pipelines that there is any spot to be reached in the brain at a certain distance from the origin of stimulation. The propagation of the nerve impulse at one hundred feet per second greatly simplifies this aspect of localization, which becomes almost negligible due to the short distances involved. It is, however, conceivable that there are some regions of the brain that can be dynamically

VIEW THAT NEURO-DYNAMIC SUMMATIONS BUILD CLIMACTIC EFFECT IN CONSCIOUS FIELD BEFITS KNOWN CHARACTER OF NERVOUS SYSTEM

'The diagram enables us to follow the displacement of the focal resultant issuing from the various switching capacities of certain neuro stations participating in an activated system of conduction paths.

'As earlier stated, the real location of effective action is not punctate. It could be picturesquely represented as a Tantalus cup requiring to be loaded up to a certain point before it could proceed to unload itself by syphon action. This notion in turn could be translated into the vocabulary of neurodynamics as the accumulation of ions upon semi-permeable membranes.

'Illimitable extensions of such a diagram could be made, with one series of coördinates building upon another, while continually employing the same design of confluescent canalizations. Converging currents would still meet at a common point capable of geometric location on the vernier principle. It is sufficient, however, to have mastered the representation of one series of such convergencies relating to an actual case. The knack of plotting oniric events must be allowed to develop through individual practice.

'Each point on the diagonal line has served to account for a single resultant tableau as it appeared phantasmagorically in due relation of time and force to the two irrigating sources which we have assumed to be directing the phantasy through a confluescence of canalizations. Such a short cut is required to-day in a brief exposition, owing to the novelty of the topic. In DesCartes' times, the situation was even more difficult. He had to reduce the switching mechanism to the simplest possible terms: a single valve directing a single stream. We know now that many neuro-electric valves exist and that the switch-

touched off by fulfilling the conditions of junction, time and force here diagrammatically represented. For, in a system of neurones, the existence of synapses furnishes the possibility of more or less local summations of the neuro-dynamic impulses with a consequent breaking of the dam; this contributes the focal aspect. To such a focus we attribute geometric position for the purpose of relating it diagrammatically to definitely ascertainable origins of excitation in the form of neuro-signals or cues. In other respects, it makes little difference whether the terminus of function is in a muscle, gland or in thought.

CONCEPT OF PRECISE SWITCHING OF FLUX FROM NEURO-DUCTS PERMITS LOCALIZATION OF EXPERIENCE ON VERNIER MODEL

ing mechanism may utilize practically the whole brain, instead of the simple valve and faucet system of the pineal gland.

'To make oneself at home with the canalization concept amid modern perplexities about the action of the nerve impulse, it is only necessary to remind oneself that the nerve-fibre is very largely a fixed dynamic unit with properties of conduction even more highly definite and more minutely chromatic than pipelines or valves or the like. The synapse is itself a very accurate electric valve. As to the inter-relations of such neuro-electric canalizations, the average person has very little idea of them. It would take a visit to the switching "puzzles" of a Grand Central Station train yard or to the Western Electric Company's automatic machine switching exchange to establish even a rudimentary idea of the accuracy, the delicacy and the permutability and consequent resourcefulness of such a circumscribed section of the neuro system as is required to work out even the simplest of dreams.

'Canalizations should not be thought of as mere indeterminate spillways, but as specific wirings or neurarchic dispositions which are established partly by neurone growth and partly by that neurone patterning which is created through the sensitizing of the neural web by the effect of daily experiences. All canalizations may be viewed as modifications of the spider web pattern in due accord with those familiar pictures of association paths in textbooks of neurology and psychology which recall the sprangling meshes of a disrupted hair net.

'By contemplating actual examples of confluescent dream drives, we realize a conception of the arrangement of memory patterns which, however diagrammatic it may be, is, none the less, exhaustive enough for practical purposes, and that is the conception of Vernier Location. The justifying principle is that any two stimuli arousing a progagated nerve disturbance are bound to overlap their effects and may determine a focal summation sufficient to detonate some specific system of discharge at a threshold that commands muscular, glandular or conscious effects.

'The vernier principle is useful because it prepares our mind to view the nervous system as containing within itself a

large number of scales with different gradations which can be mutually instrumented under the resourceful plan that is characteristic of the permutations and combinations of the well-known slide rule.

'Because each focus of response has the capacity to be picked out and animated in a peculiar sequence, it must be that it acknowledges, as it were, very slight gradations in the stimulus, as illustrated in the experimental work of Pavlov on the conditioned reflex. Thus, a brain pattern becomes individually as accessible as any note in a singer's register, although in both cases it may require numerous adjustments to call forth the particular response, whether note or neurogram. At least, this principle justifies me in depicting the mental registers as located in Cartesian space, which is distinctly a space of co-relation.

'The frame of reference employed in this manner depicts correctly the sweep of dream drives in dragging up a series of images that exhibit at all stages of their evocation a definite co-relation with certain axes of experience. For memories as well as reflex movements can be elicited in very closely graded or graduated series. Although brain paths do not specifically lie side by side in rows like the keys of a piano, yet the key-points for stimulation and the foci that these are capable of reaching by instantaneous dynamic impulses do exhibit a definite capacity of co-relation; thus compounding their control of effectors. Indeed, we need make here but very little apology for analogies of a picturesque type, since we can readily justify the dynamic view of the nervous system that allows human experience to be arranged in a sort of gamut or scale. As it is, dreams exhibit an arrangement by *families of ideas* matching well a system of vernier graduations like that represented through Cartesian coördinates. In fact, a number of "association" experiments await re-interpretation in this sense.

'Ideas, as well as movements, have been shown to be capable of being goaded into a sequence of reaction or behaviour by stimuli that play upon the right points. The arts of rhetoric and music alone would furnish an inexhaustible field from

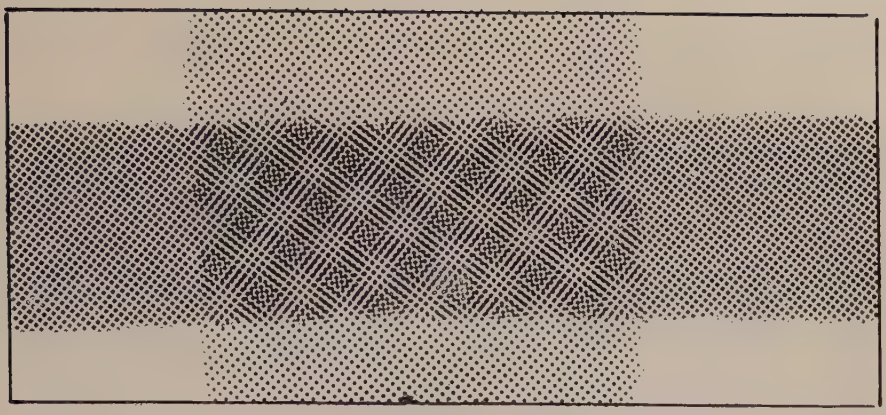

FIG. 28

FIGS. 28 and 29. A "carrefour" pattern is created as above by the superposition of two *different* systems of dots. The mutual patterning changes somewhat with any change in the angles of superposition. This is a Vernier effect similar in detail to what would be obtained by shifting one of the triangles in the Cartesian Vernier below (Fig. 29), with the result of establishing new points of coincidence. The same principle governs musical "beats" and may serve to visualize the compounding of nerve patterns in evoking varied apperceptions from identical cues (neuro-signals)

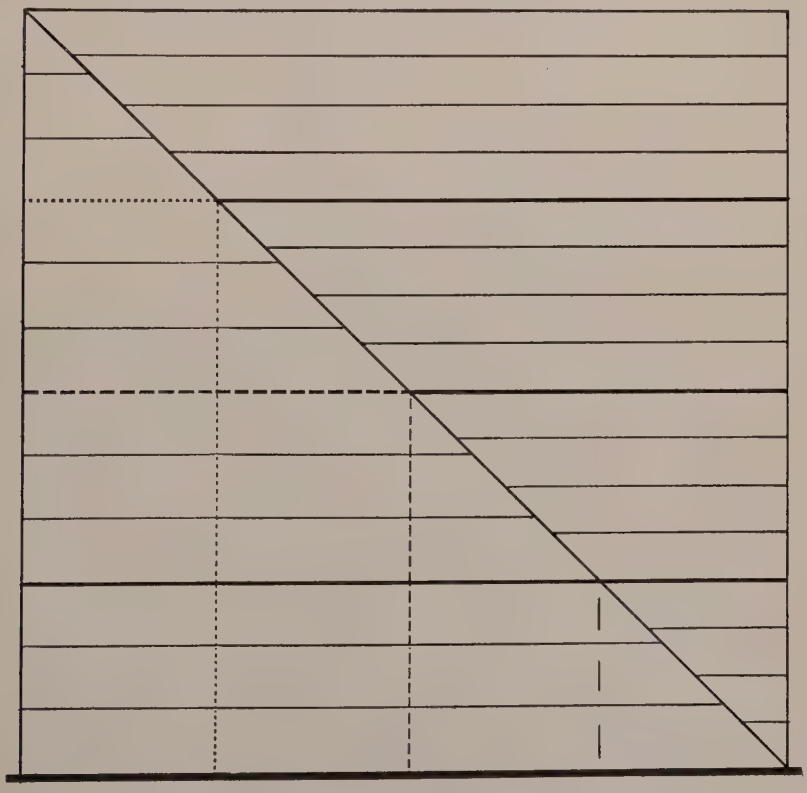

FIG. 29. Cartesian Vernier

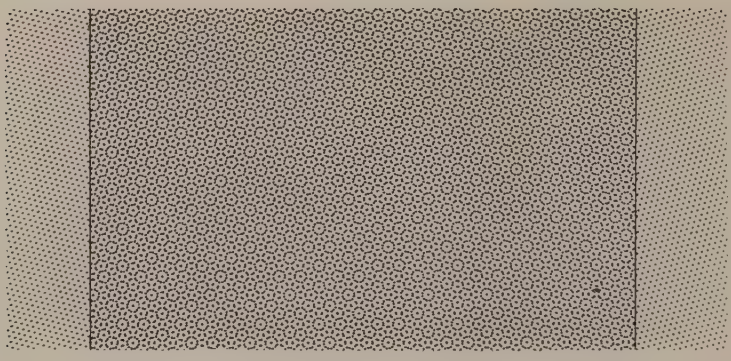

FIG. 30. This figure shows the resultants due to the superposition of two sections of a uniformly dotted film. This film is used in the process invented by Ben Day and employed by photo-engravers

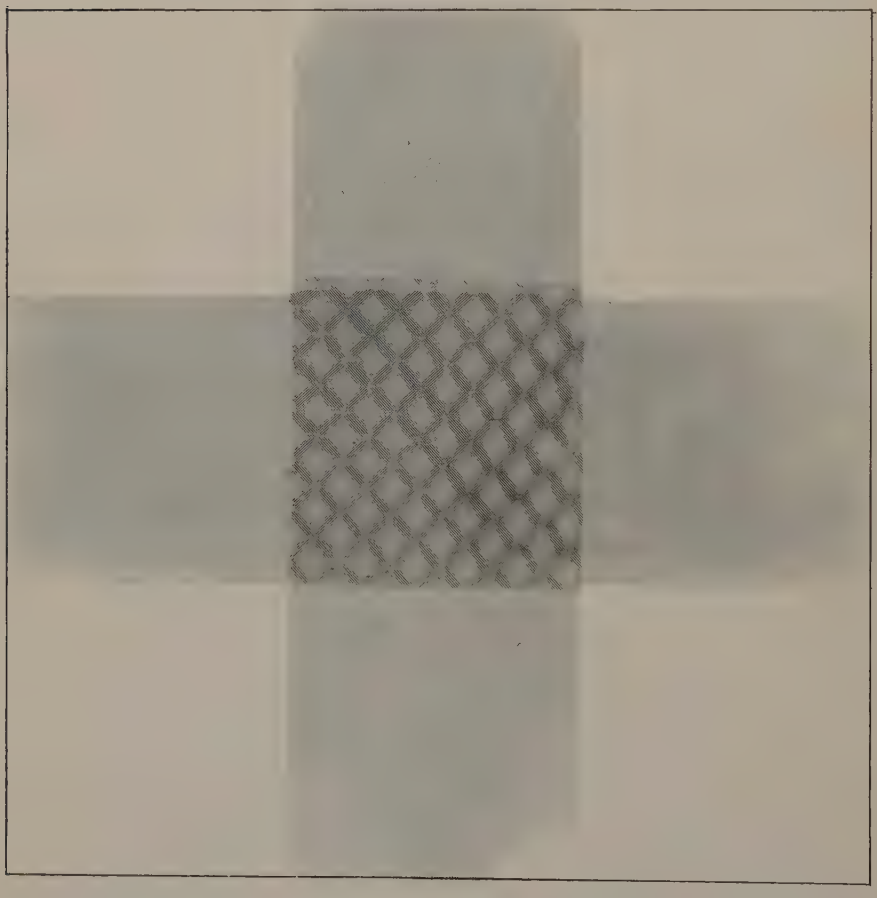

FIG. 31. The center of the cross shows the self-patterning formed by two identical bands of a "Ben Day" dot design

GRAPHIC CHARTING OF CO-RELATION BETWEEN CUE AND RECALL LIES OPEN TO EXTENSIVE EXPLOITATION ALONG NOVEL LINES

which to pick examples of the precise working of the neuro-system, in the sense of vernier scales and locations, that would contain the principle we have invoked here. It is a precision that stands less in need of proof than of scientific publicity.

'Such is the general conception of canalization. Its applicability to the mapping or plotting of dreams has been illustrated in a number of my papers, giving mechanical drawings through which it has been possible to account for the aberrations of the phantasmagoria in fundamental terms of space, time, and force. These unities are conceived as operating within a definitely adjusted framework of neuro-canalizations, having a compass assignable to a concrete coördination of cue and recall. The further solution of the dream problem can come only—it seems to me—by continually expanding the scope of such devices of explanation.'

Epilogue

The foregoing pages of this chapter record, as faithfully as memory permits, the substance of the defense of the theory as presented before the gathering in question. Although no stenographer was present and no notes were taken during the progress of the discussion, there were circumstances connected with the development of the impromptu questions and answers that helped to make a profound impression upon the reporter's tablets of memory. The presence of a company of scientists who personally embodied in their respective mental disciplines the scientific standards that had guided this research into dreams favored a very keen realization of the bearing of each question and of each answer upon the thought of those present. This furnished a basis for retentiveness to an unusual degree. In addition, as tending to solidify the memory of this joining of many issues, there was the fact that the personnel of the academic group had individually developed lines of research that had been found particularly helpful in orienting the dream investigation within the sciences

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ministering to the knowledge of human personality. Under these favorable circumstances, a review of the meeting at the close of the day yielded accurate memoranda of the drift of each question and of the essentials of each answer. In the course of months, various drafts of the discussion in verbatim form were attempted until, by repetition of the effort, and with an increasing sense of accuracy, the foregoing report of the proceedings was evolved. It may be regarded as testifying more faithfully to the tone and context of the discussion than if a merely verbatim transcript had been submitted. For the bare words of such a meeting could hardly be sufficient to convey certain unspoken but otherwise tacitly understood features of the conference, which went to make the meaning of the whole. Yet what little has been bodily inserted to represent the undercurrent contexts is not made up out of whole cloth in any sense, either as to the language or as to the concepts employed. On the contrary, the significance of the passing thought of each person present received, after the meeting, a secondary treatment by discussion among themselves, which eventually reached the reporter for the most part at first hand from the individual participants.

A number of the participants supplemented their first formal questions, as narrated, by expressing more or less tentative and casual views. In particular, the Dean of the Faculty suggested that it might be possible to regard the dream as essentially characterized by the absence of perception —"Couldn't it be said that the dream is a dream because there is an absence of perception?"

This suggestion was found so apt in certain of its features that it seemed to be a sort of peg on which to hang secondary formulations that would constitute proper and necessary corollaries of the theory.

To the above query, the answer was made that indeed one of the most notable facts to bear in mind in the course of explaining a dream consisted in the continued operation of a "situation" or set of neuro-signals of which the dreamer lacked due perception. Further, it was stated that but for this lack of perception there would be, in effect, no dream.

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Yet the answer could not embody the idea of perception in as positive a way as the validity of the questioner's thought would justify, owing to the fact that the term perception is very differently understood in different scientific quarters. It seemed, therefore, preferable to present an example so chosen that the issue of definition need not be raised to the point of becoming a hindrance to exposition. This was promised for a future occasion; and the promise is now being fulfilled upon due understanding with the questioner.

The dream that seems to offer the greatest clarity of mechanism with the minimum involvement in theoretical distinctions between *sensation, perception* and *apperception* is known in our files as the Chicken Ochre Dream. It was related as follows:

"Last night I dreamed that I was drinking chicken ochre soup, and then I woke up."

The interpretation was immediately given that this could not be regarded as anything but a bladder dream. The dreamer readily stated that the fact of a full bladder had been verified on awaking.

The simplicity of the dream and of the situation involved therein permits the exposition of the oniric sequence in diagrammatic terms.

It will be noted that the word "ochre", which represents, of course, the color yellow, is out of place in the narrative of the dream, since the proper term is *okra,* the name of the vegetable commonly used in preparing soup. The error was originally a lapse in the dreamer's acquirement of information, the spelling of the word on the menus not having been noticed, although the dreamer had recently partaken of this dish. This circumstance constitutes a confusion of category begun in waking life and utilized in dreaming phantasy. The confusion lies in the fact that the word for the soup and the word for the color yellow have been placed in the same family of ideas, whereas they really belong in separate categories. Ochre, through this confusion, was matriculated in the category of potable liquids (*i.e.,* beverages) as well as in the category of

amber colors. Now this explains how the action of drinking the chicken okra soup became a subrogate for the perception of a full bladder. For, without going too profoundly into definitions, it must be set down as obvious that there was absence of perception (in any practicable introspective sense) of the neuro-signals being broadcasted from the abdomen. It is only inferentially that the signals may be regarded as representing the unknown percept. There is, then, in a sense, a lack of perception. On the other hand, it cannot be said that the neuro-signals lack ulterior response in the form of apperception. Apperception is present; but perception is absent, although the physical basis of perception—in the form of neuro-signals —was undoubtedly present.

Once more avoiding the pitfalls of academic discussion, let us reproduce here the rough diagrams by which, many times, it has been possible to reach clearness in such dreams, without even considering the matter of definition of terms. The first diagram was developed as the picture of a lens, the refraction of which was considered so imperfect as to prevent the focusing of rays emanating from one set of the object's qualities. Crude as the analogy is, it would undoubtedly be possible to construct an optical instrument that would illustrate the principle of the dropping out of one of the component beams even more vividly than is possible in this casual diagram. Its rough and ready use here typifies the early stages in the visualizing of the trial and error feature of subrogation.

Let A, B, C, and D represent the essential qualities of the neuro-signals that would normally, by their combined and properly synchronized action, constitute the perception of the abdominal situation that underlay the dream. Let D, in particular, represent the kinesthetic and allied sensations corresponding to what is spoken of as *local sign.* Then let the lines A-A′, B-B′, etc., represent the trajectory or path of each component beam of the abdominal neuro-signals. This path is broken by refraction in the lens O in the case of A, B, and C components; only the D component's beam is unrefracted. This is another way of saying that its action fails to combine or synchronize with the other three in the focal result. The

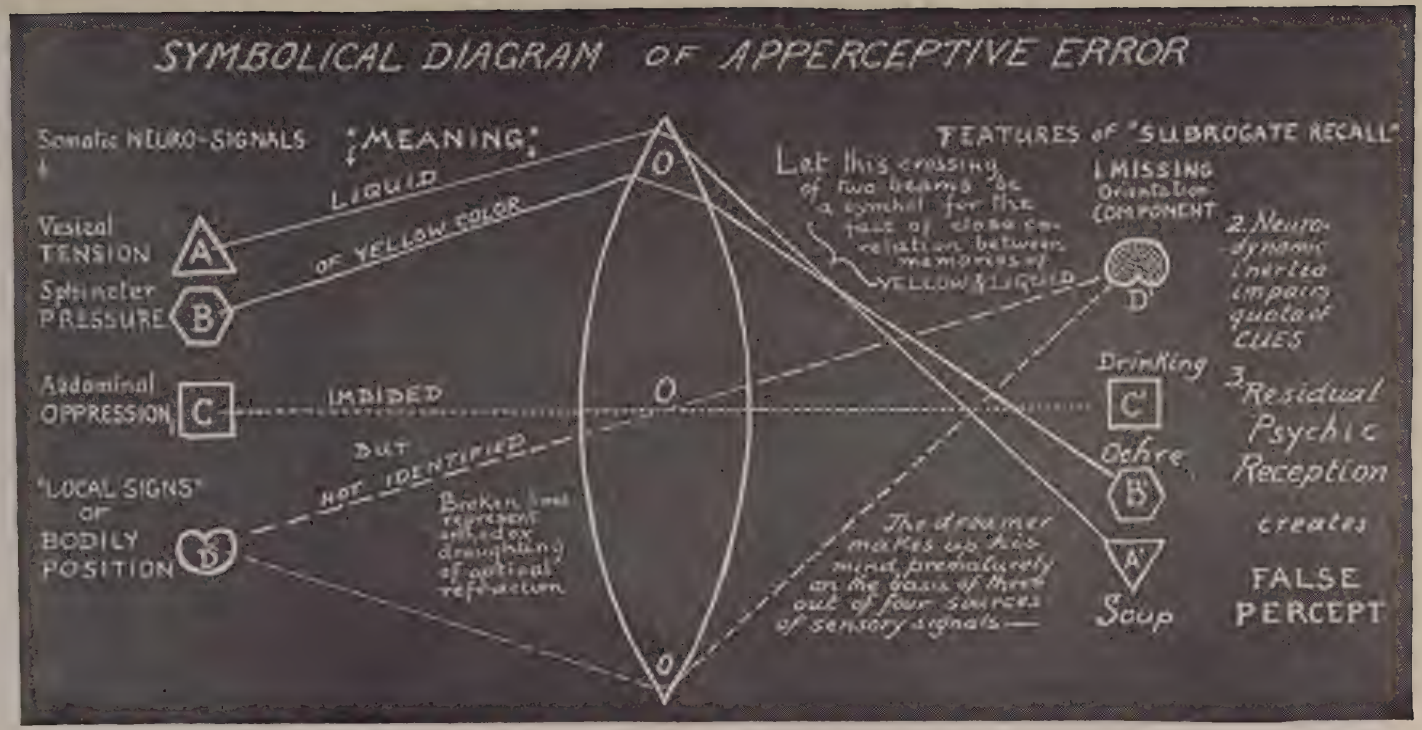

FIG. 32. This rough pseudo-optical diagram has been used in the present investigation to aid subjects in tracing the influence of various signals upon their dreams; and, particularly, to account for the disparity between oniric cue and recall in special cases

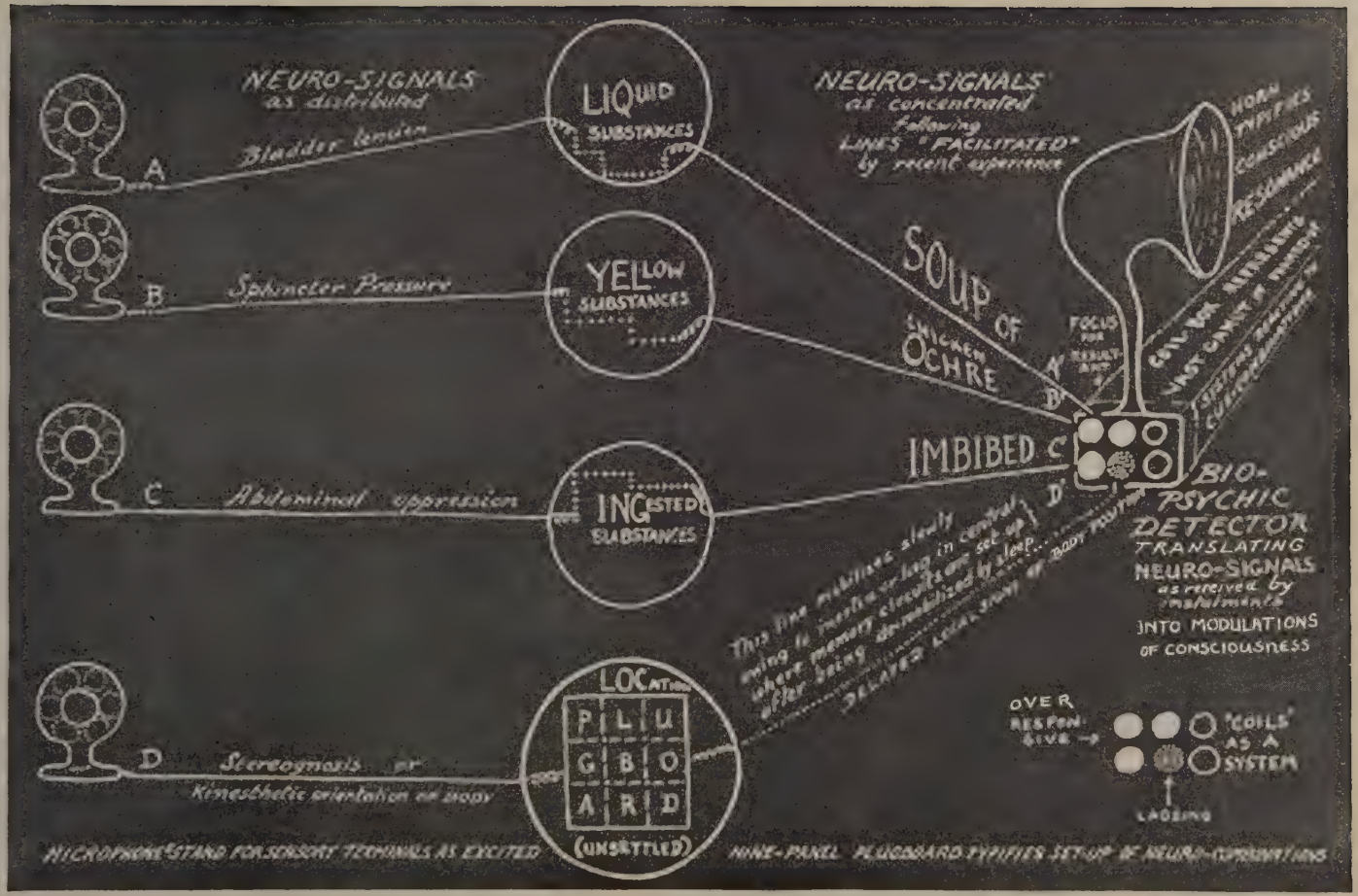

FIG. 33. This transmission diagram is a cartoon of the essential elements in the mediation of the nervous system between the environment and consciousness. The four large circles represent pivoting stations for the redirection of stimuli according to past experience. This affords a multi-pivotal system of conduction paths permitting infinite combinations, *i.e.*, "Varied Reaction" at the focal terminus

question then arises, What sort of a resultant effect is produced by the convergence of A, B, and C, in the absence of D? The answer is, according to our scheme of explanation, as follows: The dropping out of the D component causes a false percept or, specificially, the apperceptive picture of *drinking chicken ochre soup* to be worked out as the resultant of the thought-linkages activated through A, B, and C components working together at their common *rendez-vous* or focus. It is the resolution of A, B, and C *in the absence of the essential local sign (D)* that constitutes the lack of perception.

To satisfy more fully this conception of the oniric mechanism, we have to discard the analogy to the refraction of light, largely because it makes a somewhat vain appeal to a supposed interest in certain mental disciplines of the photomechanical laboratory. Its early use on my part was dictated by the habit of considering a "real image" of an object as made up by the due convergence of all the beams from the object's several parts. In our new diagram, we assume this principle and do not attempt to have the components of the neuro-signal behave exactly as light rays would behave when passing through a lens. Instead, we introduce for each component an intermediate neuro-station and consider it as a pivotal point at which each beam receives its respective re-direction. We view the path A to A′, B to B′, etc., in the same matter-of-fact way that one would visualize the arrangements for transmitting a musical program over several telephones to as many central exchanges for ultimate convergence upon some one receiving station. It is conceivable that a concert program rendered by the Flonzaley Quartet might be divided into four registers of sound frequencies, each range of pitches being assigned (by microphone adjustments) to a respective telephone, so that the respective fundamental tones of first violin, second violin, viola, and 'cello would be picked up by four separate central exchanges. Similarly, the differentiated overtones of all the instruments would part company. Now, assuming the existence of a receiving station equipped for combined reception from all four exchanges, we can well imagine what would happen to alter the chamber-music program in case of a weakening

of the transmitting power of the line carrying the lowest set of tones. There would be a definite discrepancy; the influence would be distinctly felt not only in the artistic totality of the received program but in the impaired tone qualities of the instruments. Moreover, the discrepancies would lend themselves to analysis and to expert detection at the receiving end; because, however distorted the result, these distortions would be systematic and would depend on the absence of a definite set of components of the quartette's rendition. This analogy has only the virtue of showing the kind of reasoning that may be expected to develop after the mechanistic basis of onirology has been as firmly established as the mechanistic basis of telephonics. In other respects, the rough and ready, hand-drawn diagrams speak for themselves.

The mechanisms now illustrated permit us to understand how, in a given case, one might detect the actual program of events corresponding to the missing percept and thus successfully interpret the distorted apperception which makes up the fabric of the dream. The fragments or fraction of the program that did get through would serve to help one to reconstitute the remainder and conceive what the whole would be if the missing components were supplied. This was very easy to do in the dream of Chicken Ochre Soup.

Here is another instance. A friend with whom I am taking a motor tour tells me the following dream as we start out early in the morning, having dined and spent the night at a perfectly appointed seaside club:

"I dreamed that I was sitting at a table and that a waiter put a plate of fish before me. I started to eat it but soon another waiter came along and took it away from me. Then the performance was repeated several times until I got so mad that I caught hold of the plate of fish and dashed its contents full into the face of the waiter."

On the basis of a series of silent conjectures, utilizing the model of telephone transmission above described, the following retroactive prediction was made: "You were a bit uneasy at the stomach last night and you were hot in bed in the night."

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On looking back over the period in question, the dreamer remembered that he had awakened in the morning with a realization that there was something the matter with his digestion, like "heart burn"; and also he recalled that after feeling moisture on his brow, he had thrown off some of his bed clothes. The further guess was made that probably he had had fish for dinner that night, which proved to have been the case, although it had so happened that I did not know his menu of the night before.

The circumstance that I did not know what my friend had eaten furnished a lucky setting for the Zadig Test. Since, otherwise, the mention of the plate of fish would have given me my first clue and might have tended to weaken the claim I made that I had guessed at the stomachic character of the dream through unbiased reasoning from the other clues. As a matter of fact, the first earmark of the stomachic condition was the *heat* with which my friend treated the behaviour of the waiter, which suggested to me exaggerated reactions to bodily sensations of skin warmth; especially as restraint and mildness under even extreme provocation are characteristic of this gentleman. The second earmark was the repeated presentation of the plate of fish, which corresponds to the mechanism of regurgitation at the juncture of the œsophagus with the stomach. That end of the stomach known as the cardia bears an obvious physiological relation to the action of the heart and, indirectly, to the sensations of heat and discomfort in sleep. These two clues suggested an incipient nausea. Dr. Chara, to whom I told the dream, immediately recognized that the act of throwing the fish at the waiter was a subrogation for the act of vomiting. This completes the interpretation.

It is not contended that such examples of somatic dreams disprove the existence in other dreams or even in similar dreams of meanings deeply involving the life-struggles and personal aspirations of the dreamer. These examples are offered merely to show up tangibly and palpably the relation between cue and recall in those cases where it may be said that perception exists *in absentia.* It is this absence of perception in consciousness that opens up the possibility of dreaming out a series of

false apperceptions, which, none the less, reflect the latent perception of the neuro-signal. A full grasp of the meaning of this relationship between latent perception (or what I have called subjacent content of the dream) and the patent content of subrogate images (otherwise known as false apperceptions) would entail a grasp of the essence of the Trial and Error Theory of Dreams. In the measure in which this theory is applied to a given case of dreaming, it will eliminate the necessity for relying upon the the symbological explanations that are current today. At the same time, this trial and error theory in its fullest extension does not militate against the discovery of any higher type of purposive activity that may be intimated by the dream imagery.

In regard to the distinction between somatic and psychic cues, I have already admitted that dreams based on the latter do not afford the best paradigms for elucidating the mechanism of dreaming. This is not on my part a subrogation of thought equivocally replacing a confession that the trial and error theory fails to apply to the working of psychic cues! For psychic cues, when properly considered, do sustain this theory. But it is difficult to make sure that even a clean-cut set of psychic cues (instanced in any given dream) shall receive proper consideration; a fact arising from the circumstance that such cues seem to give the would-be interpreter the key to the fields of undisciplined conjecture. For instance, in the psychoanalytic writings, the dream as an event to be explained concretely is too easily lost sight of in a pursuit of vistas upon the dreamer's life-purpose and habits. The psychic aspect of any dream item always furnishes the surest allurement for such divagations, which cause the true mechanism to be neglected, whereas it should be made the cornerstone for constructing or construing the wider meanings.

While I was framing the present general summary of the theory and rather despairing of finding a manageable example to bring out the more complex cases where dreams are governed by a medley of somatic and of psychic cues, I was fortunate in gathering from my own experience a suitable dream. It appears to be unimpeachable as an instance in point, for it was

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created out of a set of circumstances that were in no way influenced or brought about by anything that could be attributed to the present purpose of discovering such an example. Because the clues to its meaning lie on the surface of the preceding events it is most worthwhile to narrate it as an example of the mixed type of dream.

To make the presentation of this dream as little perplexing as possible, I will relate in a straightforward manner the incidents that preceded it. But it should first be stated that the dream was recorded the next morning without my knowledge in the form of my assistant's notes upon the seemingly helter-skelter fragments, no one of which was at the moment of narration recognized as associated with the events of the night before. For it so happened that, immediately on being aroused by my assistant's telephone call, I had responded through the bedside instrument by telling the dream's essential content in a casual and drowsy way, without thought of dictation.

The night before, I had entertained at dinner a friend who is a good deal of an epicure. After our meal at a restaurant, we had taken a walk and adjourned to the living room of my apartment. There, I was somewhat dismayed to find that I had left my overshoes on the floor and that an overcoat had been thrown upon the couch, in a crumpled mass, when I had earlier gone out to dinner in a hurry. On returning these articles to their proper place, at the back of a big closet used for storing some out-of-season clothes, I found there some bottles of beer long overlooked, which I gladly used to increase my resources for the little meal I had planned to serve as the evening prolonged itself. This ultimately consisted of roquefort cheese, crackers, and the said bottles of beer. Unfortunately, I had no bottle opener, nor had the beer been cooled. For this reason, I had to improvise a precarious cooling device under a faucet and to make a buttonhook serve as a bottle opener. The feat of removing the small cap was accomplished by bracing the buttonhook and the bottle on opposite sides of the rigging of a waterpipe, while inserting the hook under one of the little scalloped folds of the metal cap. At first, this proceeded very well, but later became a more tedious task as

the buttonhook gradually weakened and uncurled itself under the repeated strains, a non-success that seemed to presage a somewhat impolite length of absence from my guest. Nevertheless, he enjoyed the beer and became reconciled to the roquefort cheese, in spite of his preference for a less decadent form of the gustatory art. The evening passed without further incident beyond the consumption of the beer, cheese and crackers provided.

The dream that occurred was as follows:

Two girls named Duval (name of a French restaurant) *were to be executed and people were trying to stage a scene similar to those of the French Revolution. In a hangar-like shed, their bodies lay on a low platform of considerable expanse and were surrounded by what might have been other bodies but which were visible mainly as heaps of tumbled garments. The staging of the performance was given up as not very successful and the dreamer's attention was turned to a setting at the other side of the road where another structure like an abandoned stone farm-building was situated. There the dreamer found himself atop of a sort of rigging (like a crane or gallows) from which a pole dangled on its hook, but down which he hesitated to climb because of the untidy slaughterhouse platform that lay beneath. Later, in some way, he found himself on the ground and seemed to have proceeded along the road between the two places, first by snowshoeing at Concord, Mass., and later by motoring with a group of friends to the front of a warm, sunny residence. There were one or two allusions to people at war with each other. Presently there was a return to the two structures previously described, where one of the cadavers of the Duval sisters was seen to be in death throes, raising its head and revealing a cheek of pale-green mouldy colour and a coiffure topped with a cap of ruffled linen scalloped around the edges like those seen in pictures of the French guillotine victims going to the slaughter. There was a brief interlude of riding in a flashy automobile and then hunting for a bicycle. The problem was to get at the bicycle, which was stored in an abandoned pen of the farmhouse. There were two ways of getting there, by the front*

door of the storeroom or through the adjoining section of the stable. The indirect passage was chosen first and then the dreamer attempted to cross through a doorway in the partition; but a bulldog was on guard there and showed great animosity, chasing and growling, although he ceased his attack as soon as the dreamer hesitated and withdrew from that territory. Then the dreamer went in the front storeroom door, but found the way to the bicycle again blocked by a series of slats like an improvised fence. Here the dogs could reach him, exposed as he was and unable to lay hold of the bicycle and get it away with sufficient speed. One dog came wriggling along the floor in waves, which action befitted its similarity to a tigerskin hearthrug with a stuffed head. Finally the dreamer shielded himself from the dogs by holding up some of the slats in front of him long enough to make his way safely toward the bicycle. But the dogs soon had the dreamer at bay, yet they ceased to trouble him whenever he gave signs of withdrawing; nor did they thereupon follow him. Presently, a little girl appeared at the storeroom window opposite the entrance (for the ground rose to the level of the window). The dreamer begged her to hold in its place a window screen of chicken wire and slats so as to keep out some dogs which were trying to force their way in through the window frame to get at him. First she said she would and then she said she wouldn't; so that these dogs were let mischievously in by her between window and screen; and the dreamer was again obliged to withdraw before the onslaught of the growling animals, without having retrieved his bicycle.

All these incidents of the dream ("oniric sequences") are distinct responses to events occurring on either side of the diaphragm, in the region of the heart and the cardiac opening of the stomach; but they are more than that. They are largely reverberations in the records of memory, which retrace the relation established in connection with the meal of the night before between the cardiac and stomachic motions (somatic side) and the emotions centering around the experiences with beer and cheese (psychic side). For the farmhouse was littered with slats from kegs and with broken-down barrels, while

the big shed was earmarked by reminders of the guillotining of the beer bottles and of the green mould of the imported roquefort cheese. The earlier (waking) task of decapitating the bottles was reflected in the extraordinary similitude of their caps to those worn by the Gish Sisters in the cinema of the French Revolution called *The Orphans of the Storm,* which I had seen in 1922.

In all this, the mechanism of memory has forged new linkages, however, between the beer and cheese on the one hand and the scenes of revolution and slaughtering on the other. These entirely unexpected evocations are by-products of the *resolution of the unadjusted,* which had to deal with the impressions of the night before and with the continuing stimulation from the cardio-gastric region. The coöperation of cues from past and present neurodynamic influences sustains the trial and error process and evokes imagery that exhibits a deficiency of perception and a consequent creation of false apperceptions.

The characteristic olfacto-gustatory signals of roquefort cheese must receive their share of blame for the gruesomeness of the scenes. The cold and heat are explained by the secondary effect of the stomachic disturbance upon the circulation and upon sympathetic innervation, which regulate skin temperature. The vehicular categoreme (motor car and bicycle) is an annunciator of latent perceptions of the impeded heart action; and finally, the attempts to get at the bicycle and the counter attempts of the growling dogs are variations upon an undercurrent physiological theme actually supplied by the advancing and the receding of the stomach contents. The regurgitation at the base of the œsophagus was probably accompanied by audible "growls". The recurrent theme of *barriers interposed* probably is a subrogation for the closing of the cardiac sphincter. Furthermore, the peculiar progression of the dog that resembled the tigerskin hearthrug is a distinct subrogation for the menacing advance of a wave of stomachic contraction (cf. the Golden Epiploon Dream, Book II., p. 5).

The above is given purposely without any great effort at scientifically formal statement, in order that the reader may see how genuinely and unmistakably the co-relation of events ac-

cuses itself even without any formal working out of the dream analysis record on the elaborate basis shown in Chapter I.

Two sets of details emphasize the psychic side: first, the painful aspect of the Duval sisters, with their mouldy green "around the gills"; secondly, the presence of the repulsively heaped-up clothes, which were linked with the dreamer's mental discomfort (of the night before), at being somewhat impeded in his attempt to give a smooth and easy-going welcome to his visitor and to provide proper refreshments. This entire psychic aspect seems to be recalled by cues of discomfort from the somatic sphere. That sort of linkage belongs under the head of Emotional Congruity, which we have found to be one of the biggest of the factors governing dreams.

One pertinent detail should be added here, as it came to mind only at the close of the analysis; my visitor's telephone number, which I had called recently to make appointments, is 1789! As an historical date this number is always present in my mind when I think of the French Revolution.

In spite of the great emphasis that we may place upon the psychic side of this last dream, which reflects a past state of mind and a significant attitude of the night before, it would be entirely inconsistent with practical realism to characterize this dream in its entirety as anything but a trial and error apperception of a veiled and, to that extent absent, percept—the missing percept being distinctly represented in our reconstitution by the undeniable evidence of a disturbance at the base of the œsophagus.

Assuming that perception implies correct apperception or realization of the stimulus, it will be evident that in this dream there was potential perception and that it failed or was lacking to the extent that the apperceptions were false and took the place in consciousness that should have been occupied by perception. In fine, this is the state of affairs or process that we have named subrogation. It is the working of apperception in false ways while perception lies *in absentia.*

It would be possible to re-edit the statement of this dream and of its accompanying circumstances so as to throw the vari-

ous details into new alignment and thus to exhibit many cross-bearings among the thought-linkages, which have so far only been hinted at. This form of exegesis would give extreme precision to the identification of the various items that served as annunciators of the underlying physiological commotion. A physiologist conversant with the extremely delicate and resourceful mechanisms at the left side of the stomach would be able to detect the origin of a variety of neuro-signals emanating from the surrounding region. But it would be tedious to review all this, and would rob the reader of an opportunity to try out these cross-bearings for himself and explore the further windings of the interpretation.

The result of any reëxamination of this dream must be to show the inapplicability of the theory of symbolism and to assert the superior resourcefulness of the theory of trial percepts as explaining the various oniric sequences in this phantasmagoria.

The fulfilment of perception in the best sense may be defined as the synchronized arrival of all component neuro-signals representing a given fact. In the dreams here related, the fanciful imagery falls short of true perception because certain component neuro-signals have either dropped out entirely or lagged so as to be out of step with each other.

All the false apperceptions in the Plate of Fish Dream and in the Beer and Cheese Dream are susceptible of being accounted for by transmission diagrams like those used for the Chicken Ochre Dream.

Contradicting alike the findings of Freud's reductive method and of Jung's constructive method, this investigation by the reconstitutive method develops the fact that the tendencies to wish-fulfilment and to apparent symbolism are not of the essence of dreaming but are only appearances incidental to the main business of a mechanistic resolution of unadjusted stimuli. What drives the dream mechanism is not necessarily identical with the significant scheme or purposive layout that may, by ulterior guesswork, be inferred from the dream. The true law of the dream is the restoration of equilibrium in a system of perseverating and unadjusted tendencies

which it is of the nature of the nervous system to work over until reconcilement shall have been obtained through some resultant. The outcome is quite often without the significance expected in psychoanalysis, being confined to the elementary level of a sharpening of sensory perception.

In various papers, I have spoken of "approximations" and of augmentation of relevancy. These designations apply to those cases where it can be seen that while false apperception fills the mind, yet the true perception is not far away and can be detected in the offing, as if coming nearer and "getting warmer and warmer". The value of noting the delayed advent of true perception in such cases lies in the fact that the augmentation of relevancy arrives in time to illuminate the dreaming process by demonstrating the tendency of subrogation to rectify itself.

Thus, attention is called to that trial and error feature of the mind's working which automatically essays to establish true perception as a properly standardized mediation between our consciousness and the outer world.

Any interference with the standardized transmission of neuro-signals tends to create apperceptive errors that are essentially the same as what we call dreaming. Hence, a sound and thoroughly demonstrable theory of dreams may be expected to throw light on the whole field of mental aberration, which is now realized to be so well worth cultivating for Education and for the correction of character-defect.

Citations and Abstracts of the Author's Contributions As Referred to in Book I and Identified by Double Asterisks.

(**)

Special Citations in Chapter 2:

Page 60: Refer to Contribution No. 1 (Inventorial Technique); No. 2, p. 381 (Reconstitutive Method); No. 11, pp. 169 & 170 (Inventorial Technique); p. 172 (Reconstitutive Method); pp. 193-195 (Zadig Test).
Page 64: Refer to Contribution No. 1, pp. 401 & 402; No. 2, pp. 374-377; No. 4, pp. 150-155.
Pages 72 & 80: Refer to Contributions Nos. 5 & 6; Contribution No. 7 (Experimental Siestas, pp. 154-155); Contribution No. 8.
Page 86: Refer to Contribution No. 2, pp. 392-394.

Special Citations in Chapter 3:

Page 129: Refer to Contribution No. 2, pp. 388 & 389; and to No. 11, p. 175 ("Negative Resolutions," p. 176.)
Page 132: Refer to Contribution No. 3; and No. 4, p. 155; and No. 11, pp. 178, 180, & 182.

Note: The principle of Progressive Relevancy or Augmentation of Relevancy, referred to on page 107, Chapter 2, is summarized in Contribution No. 11, on pp. 172-173, under the heading "Approximations." See also foot of p. 179.

Chronological List and Abstract of the Contributions

CONTRIBUTION NO. 1

Inventorial Record Forms of Use in the Analysis of Dreams
Journ. of Abn. Psychology, March, 1914. (Submitted, July, 1913.):

Presents inventorial blank forms and interprets, by the inventorial technique, the Snake Dream of a little girl, showing probability of its non-sexual character.

The imagery proves to be an anticipatory or preparatory sketch of quite another order of ideas: The child has a mental plan to draw water at a well, and foreshadows the action in the dream by tenuous, but none the less unmistakable, analogies with striking features of the anticipated event.

CITATIONS AND ABSTRACTS OF THE AUTHOR'S CONTRIBUTIONS

CONTRIBUTION NO. 2

Scientific Method in the Interpretation of Dreams
With a Theory to Explain the Dream Process as Apperceptive Trial and Error; Journ. of Abn. Psychology, February-March, 1916.

Examines the growing evidences of weakness in the psychoanalytic interpretations. States the physiological conception of the "perseveration of unadjusted stimuli" and the "resolution of physiological states." Dream imagery is to be treated as "trial percepts," which can be co-related with specific stimuli. The Scratch Reflex Dream is analyzed to show how a given stimulus evokes trial percepts which are approximations: coming closer by degrees to the correct response.

CONTRIBUTION NO. 3

The Apparent Inversion of Time in Dreams
Explained by the Principle of Apperceptive Delay; Journ. of Abn. Psychology: April-May, 1916.

Presents diagram explaining the Phenomenon of Time Inversion, as illustrated in the military dream caused by a door slam. It is viewed as the result of a lagging response in the correct memory association, *i.e.* "neurogram." Apperceptive error in dreams is shown to be often dependent upon time relations rather than upon any special motive or important controlling idea.

CONTRIBUTION NO. 4

On the Irrelevancy of Dreams
In the Light of The Trial-and-Error Theory of Dreaming; Journ. of Abn. Psychology: August-September, 1916.

Presents Pantry Cupboard Dream as showing the evocation of seemingly irrelevant imagery in response to two known cues: diagram shows that irrelevancy is only apparent, as the dream is a perfectly graduated response to the cues in operation. Idea of "Index of Relevancy" developed to show mathematical features of the summation of stimuli in dreams.

CONTRIBUTIONS NOS. 5 AND 6

The Illusion of Levitation
Journ. of Abn. Psychology: April, 1918, and June, 1918. (In form of letter to Dr. Morton Prince.)

Presents collection of instances tending to show presence of a vasomotor element in experiences of levitation, as indicated by the ordinary stigmata

of peripheral vasomotion. Case of "mental healing" described and inventorially analyzed to show psychic reaction to physical sensations. Various apperceptions of subjects described as founded on "Blood vessel sensations." Shows levitation dreams Nos. 1 and 2.

CONTRIBUTION NO. 7

Levitation Dreams: Their Physiology
Journ. of Abn. Psychology, August, 1919.

Attempts unified picture of the bodily changes underlying the illusion of levitation by showing that in addition to the signs of vasomotion, there are indications of increased heart beat, freedom of the lungs, and muscular tremor, all of which bear striking resemblance to the characteristic physiological responses produced by the secretion of the suprarenal gland. The unified view lies in the fact that the bodily changes, out of which the levitation fancy seems to originate, are not accidental and scattered responses, but represent a definite set of nervous readjustments dominated by the sympathetic system. The now well-known functions of suprarenin in stimulating the sympathetic nerve fibres are cited to show a parallel action of cold upon the skin, as in the case of Insufficient Clothing dreams followed by Flying Dreams.

CONTRIBUTION NO. 8

How "Stimulus and Reaction" Explains Levitation Dreams
With Remarks on the Will to Interpret; Journ. of Abn. Psychology, April, 1920.

This is a report in the form of a letter to Dr. Morton Prince, which brings to a conclusion the preceding series of letters and papers. It deals with the problem of validity in dream interpretation. The facility of invention whereby an interpreter could put any meaning he wished on a dream fantasy is contrasted with the more rigid requirements of the method of piecemeal reconstitution of the dream. [The detailed procedures under this method are exhibited in the Introduction to the Dream Problem, Book I, Chapter 1.]

Deadly parallels emphasizing the essentially vasomotor origin of so-called levitation dreams are presented in detail and indicate that each element of the fantasy is a mechanistically falsified reaction or response to subjacent percepts of the physiological situation. This paves the way for future discussions of the mechanism of "substitute" reactions, called *subrogation.*

The conclusion presented is that great accuracy in dream-study can be attained through the so-called Inventorial Technique. This permits one to reconstitute the dreamer's train of ideas in the objective terms of "situation and response."

CITATIONS AND ABSTRACTS OF THE AUTHOR'S CONTRIBUTIONS

CONTRIBUTION NO. 9

Resolution of a Skin Phobia with Nightmare
Journ. of Abn. Psychology, June-September, 1920.

Depicts a case of mental readjustment in dreams, attained without conscious catharsis.

A series of dreams is presented as narrated by a woman who sought relief from nightmares connected with a chronic abhorrence (phobia) for certain objects and patterns. No attempt was made to explain their possible significance through phallic symbolism. Instead, the dreamer was led to adjust her own mental disharmony through "dreaming it out."

After two months, a "resolution dream" came which completely eliminated the phobia and the nightmare. Yet no recourse was had to the well-known method of catharsis as practiced by the Psychoanalytic Schools of Vienna and Zurich. On the contrary, the subject gained relief without acquiring that insight into her own complexes which usually is considered necessary.

Apparently the organism of the subject was enabled by the technique of inventorial dream analysis to readjust its conflicting tendencies on a physiological rather than a psychological plane. The deadlock of unconscious and possibly non-conscious "determining tendencies" was removed by the resolution of a strife of competing neural connections, suggesting a physiological substrate akin to that of double personality. At the conclusion of the readjustment there figured in the dream two personalities, the one representing childhood tendencies of the dreamer and the other representing the contemporaneous self of the adult.

CONTRIBUTION NO. 10

What Drives the Dream Mechanism
Journ. of Abn. Psychology, October, 1920.

An attempt is made to find a mid-ground between an ultra-mechanistic position such as that of extreme Behaviourism on the one hand, and the somewhat obscure and mystical views of Psychoanalysis. To this end, the general concept of "drive" as expounded in Woodworth's "Dynamic Psychology" is applied to the problem of the dream.

CONTRIBUTION NO. 11

Mechanistic Features in the Dream Process

Summary and general recapitulation of the theory of dreams presented in the foregoing papers, centering for illustration around a specific case of "Trial and Error in Recollection."

THE DREAM PROBLEM

BOOK II

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THE DREAM PROBLEM

AND THE MECHANISM OF THOUGHT

Viewed from the Biological Standpoint

BY

LYDIARD H. HORTON, Ph.D.

BOOK II

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THE DREAM PROBLEM

Book II

The Dream Problem
Presented in Fair Samples

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FOREWORD INTRODUCING BOOK II

The Dream Problem Presented in Fair Samples

So nearly infinite is the variety of dreams that if an investigator should allow himself to pick the dreams that most interested him he could draw from such a collection a confirmation for almost any theory of the dream process. This is indeed what has taken place not infrequently in the history of the topic when men have undertaken to lay down the laws governing the "imaginations of them that sleep," as Hobbes would say.

Accordingly, in preparing a scientific thesis on dreams, it has appeared desirable to adopt a method of selecting the dreams that would not be open to the reproach of bias. For this reason, the present *fair sampling* has been carried out in such a way that the charge of having picked the dreams to fit the theory cannot possibly be substantiated. What is more, these dreams appear to be *fairly* representative of the average run of such phenomena in everyday life, saving the fact that the dreams here submitted have been narrated and recorded with more than the usual fullness and care.

It has been necessary to submit two entirely different sets of samples. One represents a collection of dreams from a single individual, tinged by critical experiences of several years of the dreamer's life. The other set represents the variety of dreams as culled at random from the offerings of several hundred subjects.

Selections of the Individual Exhibit

In the course of our dream investigation many very full dream records had been obtained from subjects of all ages and conditions, but very few extensive cases were found in which the record could bear the light of publicity. From a literary standpoint they were either

too verbose and ill-written or too pretentious and egotistical to hold the interest of the reader. For it must be borne in mind that it were futile to submit a long diary of dreams obtained from a single individual unless some economy of the reader's attention could be counted upon. From another standpoint, certain intrinsically satisfactory collections could not be exhibited without violating the confidence of the dreamer. It was, thus, not till 1917 that there came to hand such a suitable exhibit as that which is presented here in the name of Dr. Chara. When this collection came to my notice as a result of my having submitted the Trial and Error Theory to Dr. Chara in the course of scientific conversations, I grasped at the chance to publish his "Catalogue," even before I had seen it. Further, as the personality of Dr. Chara offered the guarantee of a normal and representative dream record, I arranged with him to obtain the use of his collection and even to print the dreams as here shown, before I had read them through myself.

The value of printing this particular "Catalogue" was that, while Dr. Chara was a man of science and an observer of particularly detached mentality, he had in other respects an especial right to consider himself "an average man", an "ordinary citizen", a "normal husband and father".

Not until the dreams had been printed did I take my first close view of the contents of the "Catalogue". The printed pages, as here shown, were made the basis of a running commentary. This was carried out in accordance with the usual technique of Intrinsic Analysis which has been distinguished from Extrinsic Analysis of a dream on pages 4 and 5 of the Introduction to the Dream Problem (Book I, Chapter 1). The distinction is here restated more succinctly in the interest of making it clearer how differently the Individual Exhibit of Dreams has been handled as compared with the Random Collection.

Comparison of Extrinsic and Intrinsic Analysis

Because it is impossible to give the full history of the dreamer and expose all his private affairs, and, especially, because to do so would be equivalent to writing his biography, the use of the Individual Exhibit has been confined to procedures that illustrate certain of the less

detailed but more crucial steps in the working out of a dream interpretation record. Hence, for the sake of brevity, the two stages of interpretation typified by Pages M (Exegesis) and N (Hypothesis) have been condensed into the form of a running comment which may now be found in the first section of Book III.

Inasmuch as I carefully refrained from learning any details of the dreamer's life (outside of our casual personal contacts) until I had made this running comment, it follows that the Exegesis and the Hypothesis are virtually tantamount to a search for meaning in the dream by the method known in literature and in Biblical criticism as interpretation from internal evidence. This sort of limited procedure is what is denoted (in regard to dreams) by the expression Intrinsic Analysis.

As will be made clearer in the running comment itself, the point of this emphasis on Intrinsic Analysis lies in the fact that ulterior knowledge, which might have accounted for my successful retrospective prophecy, was, so to say, screened off from me. It is the coincidence and agreement between the items of scientific guesswork and this at first unavailable ulterior knowledge that constitutes the crucial feature of the Zadig Test. For, as Arthur J. Balfour remarks: "The whole efforts of the skilled investigator are directed towards so isolating the sequences he is examining that his experiments shall become (as the phrase goes) *crucial.* If no such isolation could be effected, it would never be possible to point to some 'phenomenon' and say of it 'Here is a cause', and to some other 'phenomenon' and say of it 'Here is its effect'. The world, in short, must have a structure which connects its successive phases in such a way that definite parts of all that exists or happens are knit with peculiar closeness to definite parts of what existed or happened before." (Page 201, *Theism & Humanism,* 1915.)

The phenomena of dreaming belong to this orderly world of cause and effect, according to the hypothesis which we have tried to test by the method of Zadig. But no test would be crucial, under present limitations of human reason, if all the circumstances that could possibly be collected about the dream were known as facts of ulterior information and employed in the so-called interpretation. The discovery of cause and effect in the phantasies of sleep, to be really accounted discoveries, must establish themselves in the intellect of at

least one person, the interpreter, as sufficiently reliable to permit a discovery of fact by retrospective prophecy of some logical nature independent of ulterior knowledge. Specifically, had I collected all possible information about Dr. Chara's dreams at the time they occurred, and presented the result as the interpretation of the dreams based on full intrinsic and extrinsic analysis, there would have been nothing in the way of a crucial or logical check upon the validity of such interpretation. On the contrary, in order to try out the extent to which the laws of probability in the association of ideas can be applied to sleeping phantasy, it was arranged to screen all that was most essential in Dr. Chara's life from the knowledge of the interpreter and then to make the test of an attempt to reconstitute Dr. Chara's situation of twenty years before, involving retrospective prophesying as to facts concerning which the interpreter could have no ulterior knowledge. The result was written up in the form of the Running Comment before any inquiries were made to see if the guesses could be validated. The results of findings by the Zadig Tests were interpolated afterward.

As stated, the collection reached the interpreter in such a way as to become a crucial test of his power of apperceiving meaning in dreams through a working hypothesis involving exact deductions and implying a high degree of uniformity in dream phenomena. What these uniformities are can best be understood from the Commentary. They relate to types of the process of error in recall termed *subrogation.* The only object in touching upon them here is to stress the fact that the Chara Catalogue was used for test in a manner that reduced to a minimum the fore-knowledge that would lower the Zadig Test to the status of a mere sleight-of-hand trick.

Extrinsic Analysis of the Random Selection

In contrast to the Catalogue of Dr. Chara, the majority of the Random Selection of Dreams were interpreted by the use of both Extrinsic and Intrinsic Analysis. This implies the use of all the procedures that serve to eke out the full record as described in the Introduction to the Dream Problem. In a small minority of cases the procedures were deliberately cut down to the briefer technique employed

in the dreams of Dr. Chara. This applies notably to the children's dreams, which were part of a set experiment in dream reading at the breakfast table, conducted as a test of the method of retrospective prophecy. The test was planned to last ten days, and was extended to three weeks. Each day one or more dreams was presented for interpretation, excepting a few "blank days." "Hits" were made in eighteen out of twenty dreams, only two dreams being unsatisfactorily explained. The failures were not wrong guesses, but abortive attempts to secure full coöperation of the subjects.

It may be asked why dreams not quite successfully interpreted should be included in the Random Selection of Dreams. In answer, we may explain that the reason is precisely that the sampling was intended primarily to be typical of the average run of dreams from a variety of sources and secondarily to exhibit the efforts at interpretation by the reconstitutive method, whether with or without success. To follow the law of averages, there must be instances of the failures of interpretation, through insufficient data or lack of skill, as well as of felicitous readings by the use of a short-cut technique. The unavoidable diversity of samples represents not only different types of dreamers, but also exhibits variations of technique. This will be more fully understood when we explain the sort of collection that the Random Sampling is culled from.

Method of Choosing the Random Sampling

Three collections of dreams were considered as material for the sampling. One series, known as the Borderline Series, was made up of dreams contributed by men and women mostly of the psychoneurotic type. There were also some mild manic depressive and paranoid dementia praecox cases. Another, called the Normal Series, consisted of the dreams of over a hundred normal subjects. Both series included large groups of dreams scarcely open to publication, considering how easily the subjects might have been recognized, in view of the circumstances under which the dreams had been studied. These groups were set apart before the sampling. A third series may be spoken of as the Psychopathic Series. Nerve clinic cases contributed them. Each series consisted of about 1000 dreams.

As a consequence of the mechanical shifts employed in filing this mass of dreams (such as frequent transferring of the bulkier records to storage files) a working file happened to have been developed which represented a flotsam and jetsam of all three series mentioned above. When several confidential assistants were engaged to consult with me and with each other as to what would be a fair sampling of the dreams, we found that this ready-made collection had become truly representative of the first two series, besides having been brought together in as nearly a random manner as we could have deliberately devised. Eliminating the dreams of the Psychopathics as doubtfully typical, we narrowed down the issue to a group of about one hundred subjects, among which the proportion of Borderline cases appeared to be typical of the population at large. Since the number of dreams even so reduced proved too considerable for practical handling in the Commentary, one of my assistants was requested to reduce the collection still further by an impartial decimation except that he was free to include contiguous dreams in case it would be doing violence to common sense to separate dreams obviously related to each other and obviously interdependent owing to the circumstances of their original recording.

The result of this paring down is the so-called Random Selection or Random Sampling of Dreams.

Estimate of the Selection

As a matter of observation, I may state that I found, on looking over these dreams, that they tallied very well with the general run of dreams that I had withheld from the sampling, for fear of a betrayal of confidence. That is to say, all the essential mechanisms and noteworthy features of these other dreams seemed to be represented in the Random Selection. In advance of this observation, my acceptance of the outcome of the sampling had been fortified by a similar comparison between the Psychopathic, the Borderline, and the Normal Series with a view to ascertaining whether there were any important differences that would require me to contrive some way to disguise the more confidential groups of dream records so that they too might be open to the use of the sampler. I found this wholly unnecessary because I

could point out quite as conveniently in the sample groups of dreams all the essential mechanisms that had recurred so often in the more deep going and confidential series of records.

The result of repeated comparisons between the present Random Selection and the much more extensive remainder, was to discover that there is very little difference in essential characteristics between the dreams of normal people, so-called, and the dreams of psychopathic individuals, in the sense that they all bear a surprisingly definite relation to the daily life and circumstances of the dreamer. The vagaries are not any more extreme among the psychopathic than among the normal, nor are the dreams themselves, viewed as narratives, as different from the average run of dreams as the waking study of the psychopath would reasonably lead one to expect. Further, as conferring an unexpected degree of representativeness upon this collection, I found that most of the characteristic mechanisms that are usually prevalent among psychopathic individuals, whether waking or dreaming, secure representation in one essential form or another in the sampling taken here at random from people of the so-called normal type.

To conclude, a thorough understanding of the kind of dreams here presented, even accepting at face value the statements that I have made in comment, would prepare any competent student to be quite at home with the offerings of almost any group of subjects chosen for dream investigation. On the whole, then, I can confidently present the Random Selection as a Fair Sampling of Dreams "taken as they come."

Book II

Section 1

THE DREAM PROBLEM

Presented in Fair Samples

Dr. Chara's Individual Catalogue of His Dreams

YOUNG DOCTOR RECENTLY GRADUATED NARRATES TYPICAL DREAMS WITH NAIVE COMMENTS

THE records which follow are transcribed from my old Recreation Books in which I entered memories of dreams whenever they were clear enough to be written. The list began in October, 1897, and was kept with all possible fullness until January, 1898. A few dreams were afterwards added, but at increasing intervals.

This recreation is simply designed to be a catalogue of dreams as I am able to recall them. When I can see what past experience furnished material, I am going to make a note of it—and also of immediate causes when I can recognize any. My dreams have always been trifling, disjointed and hard to remember, but perhaps the record may bring out something interesting. I will keep it a month or two and then comment on it.

THE CATALOGUE

October 24, 1897.

MAD BULL DREAM

After eating many grapes and sugared peanuts, I dreamed that I was standing on a small shed and that a mad bull was trying to get at me. He circled round the building and made wonderful leaps to gain the roof. At each plunge he would get his fore-hoofs upon the shingles, "scrabble" furiously, and fall back. I had a pair of lawn shears with which I prodded his head. *(The dream had a double and perfectly evident source. It was made by combining memories of the Brighton abattoir where butchers punch the floundering and bellowing steers with iron-tipped poles, and the recollection of an afternoon at Cuttingsville, when we sat on a boulder surrounded by curious but unoffending cattle.*

October 26, 1897.

BLACK LEDGES DREAM

I went over much of my summer's tramp. *I had talked about it the evening before.* I also rode through Brookline and Springfield and saw somewhere the sea breaking over black ledges.

October 31, 1897.

SCHEDULE DREAM

Last night I had a trivial but inexplicable dream. I went to President Crafts' office and waited there while Ira had some talk with him. I saw a week's program on the wall. It was the usual scheme: squares representing hours. Some periods were marked "Bliss," others "Purgatory," others "Hell." The table included Sunday, which was labelled "In the fear of the Lord." *It seemed fitting and beautiful at the time. Since then I have lost my understanding of it. I did not discuss theology last evening, but ate much buttered popcorn.*

VIVISECTION DREAM

I also dreamed of vivisecting a cat, which I believe revived and got away from me in a dismembered condition.

IMAGERY OF FIRE AND WATER IS MORE COMMON AND LESS EMOTIONAL THAN PHANTASY OF MUTILATION OR PERFORATION

November 1, 1897.

WATER-FRONT CONFLAGRATION DREAM

I know I dreamed a great deal last night, and roused repeatedly thinking, "I must remember this for my catalogue," but now I recollect only one short passage. I went to a fire in the South Cove. It had started in a large building fronting on Federal Street, I should say, and when I arrived this block was an empty shell. The flames were sweeping on among wretched structures in the rear. It was night. To get a good view of the fire, I left the street and stumbled through dark courts and alleys until I was hopelessly lost. The fire light died away and I was left blundering between the tenement houses. I did not meet anyone. The last I can recall I had emerged at the water-front and was picking my way over deserted and rickety wharves, where every other plank had been removed. *(Yesterday I counted a fire alarm. At church I heard something of the slums of New York. Finally, it just occurs to me that I lately saw a picture of a bridge in war-time stripped of its planking to prevent hostile cavalry from crossing.)*

November 2, 1897.

No dreams that I remember.

November 3, 1897.

DENTAL DREAM NO. I

I have retained two incidents from last night's experiences. Sometime, I know, I met C—— of Williams College, whom I knew at Wood's Hole. *(I was inquiring for him yesterday).* Later on I had the misfortune to tear out five teeth with a section of jaw-bone in which they were fixed. The sense of soreness that followed was vivid enough to wake me up. *Once aroused I found my mouth perfectly comfortable.*

November 4, 1897.

MUTILATED DESK DREAM

Impressions of last night are somewhat hazy. But I know I went to hear the Passion Music. There was a strange thing about the concert, every number was to be repeated by the audience unaccompanied and from memory. The results were discordant... My father drove a nail through his hand . . . I sat through a lecture by Doctor H——. It must have been very dry for I busied myself in attacking a handsome new desk with a big chisel. When I had cut a hole in it more than a foot square I was overwhelmed with boyish fear and remorse and forthwith woke up. *(P— lately lent me two chorales from the Passion Music. . . The finish of the desk I mutilated was like the lockers in the laboratory and the chisel also belongs to the department.)*

November 5, 1897.

I slept very heavily, and as far as I can tell, without dreaming.

November 6, 1897.

VACANT HOUSE DREAM

G. and I were caught in a shower and took refuge on the piazza of a vacant house. Suddenly we heard

AMAZEMENT OR ENTHUSIASM OR ADMIRATION IN DREAMS DEPEND ON MORE SUBTLE CAUSES THAN DO ELONGATED OBJECTS

the door-bell ring. We stood looking at the door in amazement, and it rang again. Then like a flash the door flew open and a wild-looking boy sprang out and hurled a heavy stone at me. It struck my right collar-bone and I woke up feeling that there was something more uncanny about it than the bare facts explained, a common impression after a vivid dream.

(This short passage is rather hard to analyze. The incident of going up on a piazza during a shower seems to be a reminiscence of a day in Waverley last June. Some years ago there was a terrible murder in Watertown. A woman answered the door-bell and was struck down with a paving stone. I had recently recalled this in thinking how timid our maid is about going to the door. But I placed the assailant inside and the ringing of the bell became most illogical.)

November 7, 1897.

ADMIRATION DREAM

All I remember this morning is that I was earnestly telling someone how much I admire Professor C., (merely a continuation of what I said to F. in the evening.)

November 8, 1897.

Blank.

November 9, 1897.

Blank.

November 10, 1897

FINE PIPE ORGAN DREAM

Last night I seemed to be moving into a splendid house. The feature that pleased me most was a fine pipe organ built into the entrance-hall. I tried the stops and combinations with great enthusiasm.

(This was a very natural dream. I am greatly interested in organs and organ-music. A week ago Sunday I tried some experiments with the beautiful one at the church.)

November 11, 1897.

DENTAL DREAM NO. II

Not long after going to sleep I was roused by the painful impression that I had lost another tooth (See Nov. 3.) *I ran my tongue round and finding no yawning wound fell asleep again. (Probably this is due to my recording and thinking about the other dream.)* In a light nap about 7.30 this morning I had a long and complicated dream which is a good type of its class,—the kind that come when one is sleeping very lightly, when there are noises in the house, and the room is not dark.

BLACK CYLINDER DREAM

I set out to carry a roll of papers to "Professor Cross, 32 Cross St., Brookline." *(The street is wrong in reality. I thought the agreement of the names odd at the time.)* I started not for Brookline apparently, but for South Boston *(Memory of the dream of Nov. 1.)* I came down to the wharves. My roll of paper developed into an iron cylinder and grew to enormous dimensions, say 8 feet in diameter and 100 feet long. Before it became unmanageable I got it aboard a whaleback steamer and lashed it along the deck. *(Here is a suggestion of the way the Obelisk was brought to New York,*

LONG OBJECTS ASSOCIATED WITH WATER AND DIFFICULT BREATHING SUGGEST VISIT TO BATH (-ROOM)

something I have not thought of for months.) I headed out into the harbor with my huge black pipe. I remember just how the black paint was roughened over the round-headed rivets. Off the New England docks a steamer came up with my craft. She was a beauty—the hull was made of natural wood, oiled and polished like an Adirondack shell. She must have been 300 feet long, had three masts and was schooner-rigged. The stranger came near and someone looked down from her rail at my low-lying vessel and invited me to come aboard and go with them to Bath. "No, I am bound for Winterport," I replied, and added, indicating my deckload. "This is a ventilating shaft." *(The topic of ventilation apparently opened up the physiological department in my brain.)* I came into a class of a dozen men and two or three women. Mrs. R. ought to have been in charge but it seemed to be Mrs. F. Ventilation and respiration seemed to be the matters under discussion. Presently we found that the class was to be subjected to an experiment on the effects of expired air. We were to be sealed up in a small room without openings for 12 hours. *(The black hole of Calcutta and Dr. H.'s live-box are manifest here.)* Our instructor spoke feelingly of the sacrifice we were to make. She showed us a gorgeous lithograph representing three men—heroes of a similar trial. One face I remembered clearly in the morning and I have just now realized that it was Vice President Hobart. We did not seem much awed by the prospect of suffering and perhaps martyrdom, but we were all annoyed at the idea of having to be perfectly idle so long. There was an anxious search for a pack of cards. *(This is incongruous!)* We were crowded into the air-tight room —and I awoke just as the postman rang the bell.

November 12, 1897.

CHURCH SUPPER DREAM

Although I feel certain I dreamed a good deal last night, all I recall is prowling round among the forsaken tables after a church supper and eating fragments of the feast.

November 13, 1897.

CAPTAIN NEWPORT DREAM

Nothing is impressed on my mind this morning but the name of one Captain Newport who seems to have figured in dreams I have quite forgotten. *(I believe there was a Captain Newport connected with the Jamestown colony but I can't tell when I have thought of him.)*

November 14, 1897.

A DISCONNECTED DREAM

I dreamed a great deal and frequently woke up feeling rather restless and uncomfortable. At various times I seemed to be trying to reason out physiological questions—with no success however. *In addition there were several disconnected scenes that I can recall.* I have no idea why I suddenly found myself tossing in a canoe on a pale green sea but this was my experience. The atmosphere was yellow and so were the sails of some large vessels which scudded past. I remarked particularly that one was a hermaphrodite brig and one a barkentine. My

COLOR OF WATERCRAFT AND CONSISTENCY OF MATERIALS SIMULATE DIGESTIVE OR SECRETORY PRODUCTS

canoe finally slid away of itself and I landed on our own stone wall—Turner St. being a sort of Venetian canal. *(The coloring, and the qualmish motion of my canoe, suggest biliousness. At any rate I shortly had another dream very clearly due to overeating. I had consumed nearly a whole cake of Baker's chocolate, eating the last stick in bed, and presently I had a vision of chocolate.).* I was enclosing my favorite confection in frail little boxes (made of burdocks I think) and packing these away tier on tier in a large drawer. I finished my work and went away returning presently to find that the chocolate had all melted, the boxes had gone to pieces and the contents of the drawer were a mottled, semi-fluid mass. *(Dismally suggestive!)* . . . By and by my father appeared and talked about war relics. He especially lamented that he had not brought home any muscles *(dissected out of slain Confederates I suppose.)* He said these souvenirs were very expensive but one John Billings had a collection of fifty . . . There was a foot-ball game in Copley Square *(profane thought!)* I (!) scored a touchdown for Tech by carrying the ball up the steps of the Public Library *(I am nothing if not egotistical when asleep, it seems.) (Yesterday was the Yale-Harvard game.)* . . . Anon a great band like Sousa's was about to play. I held my breath for the opening crash—but instead the wood wind began to play sweetly and softly the tender chords of the accompaniment to "Comfort ye my people." *(This is in no wise remarkable; "The Messiah" is always in my head.)* About the third measure I woke up—tried to go to sleep and hear more—but the thread was broken.

November 15, 1897.

Blank.

November 16, 1897.

CHAPEL—ABATTOIR DREAM

Only vaguest impressions of the chapel with Mr. D— hurrying around making ready for the Chinese Sunday School — hopelessly mixed with visions of Brighton Abattoir.

JEALOUSY DREAM

I witnessed a friendly but perfectly commonplace interview between X— and Y—. They seemed real while I was unsubstantial and they utterly ignored me. I noted (jealously?) the lingering handclasp when they met. Nothing else suggested a romance. *(X— has spoken to me of dreaming of Y— and I thought I had observed an actual scene from his experience. But he cannot recall such a dream during that particular night. So I cannot yet claim Peter Ibbetson's gift for sharing another's dreams.)*

November 17, 1897.

Blank.

November 18, 1897.

HORRIFYING DREAM

All details are lost, but I awoke with a sense of horror that was explained when I remembered dreaming that my mother was living—and insane. *(All my dreams of her are*

DENTAL DREAMS APPEAR SENSORY IN ORIGIN UNLIKE CRYPTIC DREAMS OF DEAD MOTHER AND UNWELCOME GUESTS

haunted with terror—such was the impression made on me by her last illness.) (Mrs. S— is now sick and this probably suggested the dream.)

November 19, 1897.

DENTAL DREAM NO. III

For the third time my teeth attracted my attention last night. I fell into the hands of a dentist who tested the soundness of one tooth after another by looping a fine thread or wire round each and drawing it so tight that I thought the tooth would be crushed.

November 20, 1897.

CHURCH DREAM

It seemed to be Sunday morning. My father had gone to church and I was about to go. I supposed the house was empty but as I started down stairs I saw a young girl—homely and dressed in black—cross the hall from one room to another. She resembled no one I can think of. I stood still in perplexity and my eye fell on her hat and veil lying on a table. I thought she must be going to church and that I should wait for her. So I waited. Shortly doors began to open all over the house and more strangers appeared. Three men came clattering down from the attic. I thought they must have been sleeping there. They passed me with wonderful speed and left the house. Women and children also flocked by me. No one spoke. I went to church and found only four or five people there. Mr. E. W. K— sat by the middle aisle and I stopped to speak with him. *(I inquired of him about G— in a car the other night.)* Then I went on and found my father. I asked him if he knew our house was full of guests. He showed much annoyance and said he knew it and that they "an obnoxious, mercenary lot." Forthwith they streamed into church and I was jammed up against the end of a pew as they crowded by. They did not look at me or speak. I remember especially one middle-aged women, florid and portly, in a gray dress (Mrs. P—?). The throng seemed endless.

NEEDLE DREAM

Somebody, a woman I think, suddenly volunteered to show me a neat trick. Seizing my hand she pushed a needle through it between the thumb and the palm. It went hard and slowly but there was no pain. She left me incredulously scrutinizing the little hole that was made. . . (Here my memory fails.)

November 21, 1897.

DERAILED TRAIN DREAM

At 3 o'clock a piece of ice plunged down a waterspout and startled me broad awake. It must have interrupted a difficult lecture for I roused up saying— "The deflection of the galvanometer is greatest when about 2 p. c. of carbon is present." *I went to sleep again and had disjointed dreams. I remember only two.* Dr. H— had R— (a Tufts man) come into his office and commissioned him as a sort of detective or tithing-man to look up absentees. *(I keep the roll of the Physiology class.)* . . . I stepped from an east-bound evening train at West Newton *(Really I had just left one at Newton.)* An engine running rather slowly, crashed into the

DREAMS OF LEG PRESSURE AND OF MARINE LIFE GIVE CLUE TO SENSORY ORIGIN UNLIKE DREAM OF A "DOUBLE"

rear end of the train as it stood at the station and derailed all the cars without upsetting or smashing them at all. One man had his leg jammed in some way and there must have been tons of pressure on it but presently something shifted and set him free. He merely slid to the other end of his seat and sat still. I was much relieved to see that he was not hurt. Walking through the cars, which were very much out of line, I was grasped by a little boy who was shrieking with nervous terror. I carried him into the station where he became quiet. *(Yesterday I saw a crippled child carried through the car.)*

November 22, 1897.

Blank.

November 23, 1897.

OCEAN DREAM

Father and I reached Portland by rail and went immediately to the harbor front. Walking by the docks we came to a gently sloping beach. Here I noticed that we both wore bathing suits. We waded into the water, which was deliciously warm and which seemed neither to resist us nor to make us unstable. We walked fast and easily. The bottom shelved very gradually and it was only after some time that I was obliged to go on tiptoe to keep my head above the surface. It was a bright day and the bay was smooth. We passed some islands and I began to expect to meet the swell of the open sea. Presently my father said he would show me some superior tobacco and sure enough we shortly came into very clear water with a rock bottom overgrown with brown tufts resembling sea-anemones, but really tobacco. I could smell it plainly though my nose was still above the ripples. I wondered if my father would buy this singular and valuable farm. We left it and walked straight out toward the empty eastern horizon. I began to be scared. The water became a trifle deeper and I had to jump from the bottom to catch a breath of air. Then it shoaled again and we mounted a sand-bar which exactly reached the surface—so exactly that many little pebbles were half out of water but *none entirely so.* The seaward side of the bar was steep and with deadly fear I followed my father down the incline. "This is the edge of the continental base," I thought. "We shall go down for miles." But I did not think of turning back. . .

DOUBLE PROFESSOR DREAM

President C— began to lecture. I do not recall his subject but he was to speak from two until six. After a little I discovered that the lecturer's double was listening attentively in a front seat and I was at a loss to decide who was the true Professor. In this perplexity I woke up.

November 24, 1897.

CRUSHED CRACKERS DREAM

All I remember from a long chain of happenings is a single absurd incident—that of sitting down on a bag of soda crackers and crushing them to bits. *(I never did this when awake.)*

ELONGATED OBJECTS DO NOT APPEAR ALWAYS AS SYMBOLS BUT FIGURE AS SYMPTOMS OF REAL SENSATIONS

November 25, 1897.

INDUCTION COIL DREAM

Someone gave me an induction coil and I bent my energies toward amusing a large company with it. I wanted to make the spark set off a charge of powder which with absolute want of foresight I put inside the coil. Then I considered that the explosion would kill us all and what seemed still more undesirable, would ruin the pretty machine. I puzzled over the difficulty for some time, but I believe I did not find any way to carry out my experiment.

November 26, 1897.

WHITE RABBIT DREAM

According to all tradition the night after Thanksgiving ought to be marked by a whole series of striking dreams. I went to bed with lively interest in the prospect but I was somewhat disappointed. All I recollect of the first part of the night is that I walked repeatedly through a stone-arched railway culvert. It was not the celebrated one at 'Ame Pratt's.' Each time I went in below and crawled out by a vertical shaft on the other side of the track (Diagram). The locality seemed to be above Westfield on the Albany. . Toward morning I found myself reduced to about six inches tall and once more in an underground place. It was a cubical chamber about as big as a soap-box. The walls were white and stuck over with crooked pieces of macaroni! Two circular tunnels slanted away toward the surface of the earth and through them a pinkish light streamed. I was in the burrow of a white rabbit that soon appeared. He seemed quite peaceable but his comparatively enormous size made me uneasy. (He was in fact nearly two feet long.) I started out by one of the tunnels, walking backward. The rabbit followed, also backing. I pounded his flanks with my puny fists but with no effect. Emerging from the hole I suddenly regained my normal size, captured the rabbit and carried him off. (He was now brown.) I thought I must kill him for the laboratory but I was very unwilling. Finally I tried to strangle him with one hand while with the other I felt his warm chest to note when his heart should stop beating. But my resolution failed and I let the poor animal revive. I carried him through Newtonville Square and came to a decaying colonial house. . . *(This house is in Westfield, I think.) (It seems to me that this dream resulted from my sympathy with the F—'s cat which D——was mauling last night.)*

November 27, 1897.

DISCONNECTED DREAM

I stood on a point several hundred feet above a beautiful bay. *(No doubt this is a souvenir of Camden.)* Three white side-wheel steamers were circling round about a mile from shore. Presently one of them ran down another, which instantly sank. Then the offender headed for the remaining craft and struck her similarly. She went down stern foremost. Her bow remained a little above water and pointing straight up for some seconds. I reasoned that she probably had an air-tight space forward. *(I have seen test-tubes float this way with a little*

ANTICIPATORY IDEAS OF PERSONAL AND OCCUPATIONAL LIFE GO HAND IN HAND WITH PHYSICAL PERCEPTIONS

air at the upper, closed, end.) (A schooner was cut down and sunk in the harbor the other day.). . . . I was in Roxbury with my brother. He asked me where Mount Pleasant was. *(The name figures on street-cars.) As a matter of fact I do not know—Dorchester being a hopeless enigma* —but I directed him to go to Grove Hall and keep on for a mile beyond. We separated. I walked a long way thru a thickly settled section and came to a vacant corner lot upon which six or eight men, all resembling Mr. H——, were camping out or picnicking. Without previous thought I found myself inquiring after J— B—. They said she was out of town. With remarkable inconsistency I told them I knew it, adding (a lie) that I did not want to see her but her mother. The last impression I have is a strong one of being altogether out of sorts with myself and everybody else. . . .

November 28, 1897.

DENTAL DREAM NO. IV

My dental dreams seem to be quite perfectly periodic. They have occurred on the 3d, the 11th, the 19th, and last night. In the present instance I extracted my second lower right premolar—without pain. I examined the tooth with great interest as did my father's cousin N— who seemed to be here. *(My premolars are chipping away and I have been thinking of going to the dentist's. Beside this I rode across the city yesterday and noticed an unusual number of hideous gilded models of teeth hung out before these chambers of horrors. Finally H—F— triumphantly twitched out a loose tooth Thanksgiving night when I was at I—'s.)* Later on in my dream went to the station and took a train for Framingham to see Dr. B—. *(Here is an anticipation instead of a memory.)*

November 29, 1897.

LECTURE DREAM NO. I

I was a good deal wrought up last night over the prospect of my first lecture before the advanced physiology class, coupled with a half-prepared paper which I was to present at the Journal Club this morning. For the first time since I began my calendar my waking thoughts passed imperceptibly into troubled dreams. I slept lightly and in snatches. I thought that I had failed to wake in time. That I had rushed into Boston without my breakfast—then that I calculated on buying something to eat and strayed out to Cambridge—saw that it was ten minutes to nine —despaired of getting back to Tech and only hoped Prof. S— would step into the breach.

BALAAM'S ASS DREAM

Then I woke and found it dark. For two hours I could not sleep but lay in a strong-coffee state of mind feverishly running over physiology, quoting scripture, poetry and geography—watching a medley of pictures. Suddenly I recalled a woodcut that I had seen in a dream the night before. It was on a Sunday School leaflet and represented the head of a most humorous looking donkey with wide open mouth, stretching over a board fence. Underneath I had read in capitals, "AM I NOT THINE ASS?" I thought

PROMINENT OBJECTS OR PERSONS OFTEN STAND FOR A PHYSICAL ORGAN ALTHOUGH MENTAL EXCITATION REVEALS ITSELF MORE PLAINLY

this was quoted from the account of Balaam's experiences in the Bible. *When I recalled it in the daytime I could not say whether I ever read the story. But on looking it up I was astounded to find that I had really quoted in a dream something which when awake I did not believe I had ever heard. This is by far the most curious fact I have noted in my account. (It should read "Am not I" . . . etc.) I certainly never read the passage but once and that neither recently nor attentively.*

November 30, 1897.

Blank.

December 1, 1897.

BIRMINGHAM TOWN HALL DREAM

(Here is a naive tribute to Dr. H——'s ability to explain things.) Last night I was in Birmingham, England. *I do not see how I recognized a place I know nothing about but I was certain that it was no other.* Walking through the streets with another fellow I came to a shabby brick building and said to myself—"This is the Town Hall." *(I think I have seen a picture of Birmingham Town Hall, which is really an elaborate pile.)* We went in and found ourselves in a large bare room with an unpainted counter at one end. We joined a motley company of some twenty people each of whom placed an American dime on the counter. A man collected the fees and then brought in a small shepherd dog and a half grown pig. We expected to see them perform but something interrupted. I hunted up Dr. H— and asked him what the showman would have done with his pets. But he could not throw much light on the question.

December 2, 1897.

Blank.

December 3, 1897.

DEPOSITION DREAM

I dreamed that the faculty of the Institute held a meeting and deposed President C—, giving his place to someone named D—. I was much wrought up over this move. The T——'s of Rutland showed up sometime during the night.

December 25, 1897.

MUSIC HALL DREAM

Since the last entry my time has been so taken up in various ways that I have let my record lapse. With more work to do I have gone to bed more sleepy and dreamed much less than last month. So I have not missed setting down anything of interest. In the meantime came the "Messiah," and the unwonted excitement consequent upon J—'s acceptance of an invitation to go with me spoiled my rest for at least two nights.

I had secured balcony seats, and on visiting Music Hall at midnight I was much disquieted to find both galleries pushed up close against the ceiling. *This was before the concert. When it was over I went to bed in a serenely joyous mood and fell at once into the deepest and most satisfying sleep.*

VACANT HOUSE DREAM NO. II

With holiday relaxation I begin to dream again. Lately our laboratory has been kept in a disagreeable

DIGESTIVE COLORS EVIDENT BUT SEX MEANING OF LOST OVERSHOE MAY APPLY HERE AS FREUDIANS HAVE IT

state of vibration by the machinery in the basement. Last night the nuisance seemed wondrously increased for the partitions cracked and yawned until I could step through a breach from Dr. H—'s room into the Comparative Anatomy. Here I found sections of the floor displaced and could look down upon a crude and ponderous pumping engine which seemed to have wrought the mischief. At this point the L—s appeared, both wearing beards of a very light color. I went with them to Lowell and we found ourselves in a street bounded by huge mills built of dark granite like the buildings at the Navy Yard. A sign read—Brig Square. The place was quite deserted although the sun was high and shone warmly. We went along to a residential part of the city and tried the door of a house in a handsome block. It was not locked. We went in and poked around the rooms, which were richly furnished. We explored every floor without meeting anyone. We did not take or injure anything. At last, as we came into the front hall again, we heard heavy foot-falls on the stairs. We hurried to the door. Something made me walk unevenly and looking down I saw I had lost an overshoe. Glancing back I spied it on the parlor threshold and I promptly kicked my remaining rubber after it, thinking however that it might identify me.* The steps sounded close behind as we rushed out and ran with all speed down the street. I counselled turning at the second corner and we did so, looking back to see a policeman pass at a headlong rate. Here I woke.

* Cinderella

December 27, 1897.

BUGS DREAM

General impressions of last night are unpleasant. Among a series of vaguely remembered incidents stands out a visit to a dirty attic room containing a recently vacated bed which was teeming with insect life—black ants, with white larvae, and many other species. Concerning one kind I asked my brother if they were "pediculi"—and he said they were. As we went out I saw a black greasy, sausage-like thing crawling upon a shelf. "What is that?" I asked. "A lion-bug," was the reply.

December 28, 1897.

DISCONNECTED DREAM

I recall only the barest fragments from a prolonged medley of dreams. Once I was with B—— J—— at a concert in Music Hall and he fainted. *(When I was looking forward to the Handel and Haydn week before last I brooded over all the contingencies that might mar that great occasion. Probably I considered this one—I am not sure.)* I got J—— out, restored him and sympathized with him. . . . I went to the station to take a train into the city. There was to be a bicycle parade and the crowd was a large one. Express trains with most beautiful cars all green and gold rolled by at short intervals and once five or six electrics passed. (I notice a trolley-wire stretched over the track.) None of these stopped at Newtonville and when a tallyho appeared with Mr. U— in charge everyone swarmed upon it until it was black with people. I tried to climb to the top but could not have gained it without the

help good naturedly proffered by those already there. I found a place to wedge myself and hung on for dear life. . . .

December 29, 1897.

LECTURE DREAM NO. II

My chief trouble in lecturing at Tech is that I use up my subject matter so fast that I am continually running ahead of my schedule. My anxiety about this extended into my dreams last night when I found myself before the class with nothing to say. But being more fertile in resources when asleep than ordinarily, I told them I would talk about geology. I laid down an argument which I considered ample to justify my departure, proving that physiology presupposed a knowledge of geology. I have forgotten how I made my point. I went on to discuss the formation of Boston harbor and the headlands of Hull and Nahant. As a natural consequence of my short-sightedness in choosing a subject, I found that twenty minutes sufficed for me to tell all I knew. Unable to think of anything further I stood in silent distress for a while and then slipped into a seat whence I looked at my vacant station and thought, "Seeing this is a dream perhaps somebody will come in and finish the lecture"—but no one did. . . .

December 30, 1897.

Blank.

January 2, 1898.

HAIR-CUT DREAM

At sometime in the night I found myself listening to the "Messiah" and having my hair cut simultaneously. "Samson and Delilah" would have been a more appropriate oratorio especially as a woman wielded the scissors. I was standing out in a large expanse of bare floor vaguely conscious of the snipping at the back of my neck but more interested in the rendering of "Unto us a Child is born." The chorus was not large—say forty—and sang unaccompanied but with fair effect.

January 3, 1898.

MOUNTAIN DREAM

I looked from a car-window into a land which it seems to me I have visited before when asleep though never when awake. There were no trees. Jagged cliffs of gray limestone rose out of smooth and rolling fields covered with short, fine grass —most beautifully green and as free from weeds and stones as any lawn. Above the ledges the ground was again grassy and thrown into swells and hollows of most graceful contour. Then more cliffs sprang to another level and so on, terrace above terrace. Here and there smart white buildings stood out in the powerful sunshine. "Peterboro Mountain," I announced confidently as I viewed my creation. *(It really bore no resemblance to Pack Monadnock, which sometimes goes by this name.)* . . . Wandering over the green slopes I approached a towering mass of rocks in which was an opening—a great funnel slanting down with a little glimmer of light at the end. Evidently it extended through to the other side of this rugged spur. I went in. Presently

the passage tapered until I crawled, rubbing the rock and descending gradually. At length I could squeeze no further. (*A distinct reminiscence of a little cave at North Clarendon, Vt.*) A yard or two ahead I could see that the light which had guided me streamed into the cave from an invisible source—probably an opening—around a corner at the left. Suddenly I felt oppressed and dizzy. . . . I climbed a rough ledge above a large and beautiful spring. There were pebbles of pink and slate-color at the bottom of the clear pool. Mr. U— seemed to be up above among the bushes. . . . I was on top of Dr. H—'s room sitting close to the edge and dissecting some large moths which I killed by rolling them in paper soaked with picric acid. . . .

(*This room was a glass cage standing in the middle of our old laboratory. Hence it had a "top" accessible by a ladder. Perpendicular places seem to be characteristic of all these dreams.*)

January 4, 1898.

CELLAR-CLASS DREAM

Just before I woke I was very busy running a class in physiological laboratory in our cellar. I divided my attention between the experiments and stoking the furnace. *(Nothing could be more natural, my mind was fixed upon the necessity of getting up to see to the fire before going to the Institute. I easily blended the two ideas.)*

January 5, 1898.

Blank.

January 6, 1898.

SENTIMENTAL DREAM

I suppose I am bound to put down a decidedly sentimental dream which must figure in an impartial record. It is my first offence. It was a black night and I was escorting a girl down Washington Street toward Haymarket Square. The buildings were dark but the sidewalk was crowded. I was trying to keep I— and B— in sight as they pushed their way along in front of us. They hurried us uncomfortably. As rough men jostled us, my companion very simply put her gloved hand in mine. It pleased me very much. In fact I seemed quite fond of her though I did not know who she was and cannot identify her now. I think she wore a brown coat and I remember most vividly her tan-colored glove with black stitching on the back. Suddenly there came a shock like a quick wakening and lo!—I was standing indoors, day-light was streaming through the windows, and in my right hand which was still extended were the fragments of a crushed coffee-cup! I felt hurt and dazed. *(I do not know what to make of this untoward change. But I do know it would have required a fervent pressure to smash that coffee-cup. It should be clear that this was not an actual awakening.)*

January 8, 1898.

DISCONNECTED DREAM

For the last two nights I have dreamed a great deal but have not been able to recall the course of events. At one time I was discussing vagus inhibition. Presently I was out in the gray of a wet morning

RESEARCH ON LEVITATION DREAMS SHOWS A MAINLY VASOMOTOR ORIGIN NOT ALLIED TO ORGAN PIPE DREAMS

walking the deserted streets of Newtonville with most disconsolate feelings. I came to our house and seated myself on the piazza. . . . By and by the C— quartet seemed to have planned a sea-trip. We were to take a train at 8.10. I reckoned that this would be an express and get us to the wharf by nine. Then I remembered it was winter. . . .I fell in with L— near the Old Corner Bookstore at night. We started toward the North End, but finding we were leaving all lights behind we faced round and decided to go to a theatre. I do not remember reaching one. . . . Shortly it was day again. I came to the brow of a precipice and concluded to jump off. I was a little uncertain as to the result but thought I could do it well enough. And so it proved. Clearing an iron railing I sailed down easily to a jutting point thirty feet below, landed lightly and leaped off again. Three or four such stages placed me at the foot of the cliff. *(This proceeding did not wake me up.)*

January 9, 1898.

CHURCH DREAM

I had two visions of the church separated by a wakeful interval. In the first case I must have gone back three or four years, for my surroundings seemed to be those of the old building, and I was up in the choir. The other singers were strangers to me, excepting that "F" Williams was among them. We sang Adeste Fideles and a hymn set to the tune of "Aletta," as I recall the melody, but "Hortonissimus" in the book. *(There is a tune named Horton.* Before I woke up I had settled it that the superlative form meant "most cultivated"—Lat. Hortus). . . . The other dream must have taken me into the future, for I found the present church much altered and I recognized very few of the people there. The interior was very dim and sombre, partly because rich memorial windows had displaced the familiar ones. The pews were ranged in semi-circles, leaving a large space vacant before the chancel. I asked someone if this was for T—— H——'s chorus. "No," was the reply, "they sing in a picture." Probably this was a poetical way of saying that they had passed into history. The pulpit, I think, was gone. The greatest change was in the organ. The original part was still discoverable, but it had been extended across the entire front of the church. There were ranks of silver gray pipes rising before the chancel windows. Some were so long that they rested on the floor and disappeared through the roof. Smaller ones flanked the minister's room. At three places there were key-boards and benches. Mr. Y—— was in his old position playing a stormy composition. When great power was demanded he jerked a clothes line which swung open a large door in the case of the organ, and the tones pealed out with overpowering effect. Then the door would swing to with a slam. . . .

DREAM RECORDER CANNOT COMPREHEND PREVAILING PESSIMISM OF HIS DREAMS OVERLOOKING PROBABLE DIGESTIVE CAUSE

I suppose that I can remember only those dreams that come just before I wake up. When I recall in the morning events that I can clearly assign to the early part of the night, I always have the impression that I was awake for a moment at least after the dream. Whether one dreams at all except in the transition to waking is an interesting question, but, of course, a hard one to settle. As a matter of fact, when I am very suddenly roused from sound sleep I seldom recollect dreaming, but I have done so, and it may be that in other cases the shock and excitement have destroyed the recollection. For, as I have noted before, dreams are most perfectly recalled when the waking is not hastened or disturbed from without.

I have attempted to put the dreams I recorded into four classes—(1) those that were distinctly pleasing, events that I should really enjoy and which might occur without a suspension of natural laws; (2) those that were perfectly possible and commonplace; (3) those that were impossible and fantastic, whether startling or amusing, and finally (4) those that were distinctly distressing. The tabulation follows:

1. *Sane and pleasing..... 5*
2. *Sane and commonplace 13*
3. *Insane, but not harrowing.....20*
4. *Distressing, whether reasonable or not.....26*

[*See explanation of this total on following page*]....64

The third group contains the longest and most interesting dreams. Three or four I have entered under two headings.

I do not understand the proportion of painful passages. Since last October I have enjoyed my usual buoyant health, and I have been most of the time cheerful and free from anxiety. My work has gone well and no mishaps have overtaken me or befallen any of my friends. But apparently I am no sooner asleep than pessimism is supreme. I cannot account for this at all.

Sometimes in a dream I say or hear something which seems to me profoundly wise or keenly witty. As I wake up by slow degrees, the remark becomes less and less interesting, and when I am ready to get up it is absolutely without point. Last night, for instance, I was incredibly entertained by being told that in some place or other "nothing accumulates but fat on the cats." *This is a trifle mystifying. One is left in doubt as to whether he is more foolish or more subtle than ordinarily when asleep.*

DREAM RECORDER CONJECTURES CLEVERLY AS TO DREAM CUES BUT FAILS TO UNDERSTAND LIGHTED CANDLE

[*Editorial P. S.*—The "total" of Doctor Chara's dreams exceed the actual count to date due to his having classified some dreams in duplicate according to their varied emotional content.]

I think I may as well stop here. The nature of my dreams since November 27, when I made some comments on them, has not suggested anything new. Now and then the mood in which I went to bed has been like the prevailing tone of the dreams that followed. But on the whole the striking thing has been the independence of immediate conditions. Matters that have occupied my mind through the day seem really less likely to come up at night than impressions from some time past. Perhaps this is because tired brain-cells rest, while those that have been long inactive are the more ready to play a part. Another fact has often appeared. The emotion provoked by a dream is nothing like what the same occurrence would rouse in waking hours. Usually one is much less moved by startling or tragic events than would be expected, but now and then a dream that seems trifling, when it is told, excites the strongest feelings and lingers painfully. When one rouses from such a dream he feels that he has been near to a tragedy, and that while he has seen nothing but what was commonplace, something around the corner or in the next room has gone wrong.

SINISTER DREAM

This was true of a dream which I used often to have, in which I stumbled upon rooms in the house which I never knew were there. Many times I have made my way through unlooked-for trap-doors in dark corners of the attic or shed and always with a chill of fear have entered these vacant chambers. The rooms have sometimes been walled with naked laths—sometimes they have been plastered and furnished. Dust has always lain thick on tables and chairs. The horror of the dream comes from the haunting conviction that Something has just happened there. I cannot make clear the sinister and grewsome impression. Last time, I was passing our house at twilight and glanced up to see a lighted window. I grew cold as it came over me that I did not know in what room that light was burning. In a moment I was in the attic. I opened a scuttle and looked down into the unknown room. Dust and disorder were there; all was as if the place had been unoccupied for years—save that upon a chair THERE STOOD A LIGHTED CANDLE! I started broad awake and lay trembling with dread. *The experience has a certain air of mystery about it, but the painful emotion is out of all proportion to the facts. Such dreams become more terrible at each repetition.*

* * * * * * * * * *

TEMPERATURE SENSATIONS ABOVE NECK OFTEN REFLECT THEMSELVES AS IMAGES OF PARTICULARLY HOT OR COLD OBJECTS

I think I will still enter dreams whenever they are sufficiently curious or interesting.

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March 18, 1898.

AUTOCLAVE DREAM

Some weeks ago I fell asleep and found myself standing near the autoclave in the laboratory talking with a young woman. After a little she excused herself and went down to the east end of the room. In a minute she came back with an irregular block of glittering ice set upon her shoulders *in place of her head.* She stood before me—naturally without speaking. I watched her with anxious interest. The ice began to melt and trickle down. Channels formed in the mass, its angles were rounded away,—the sculpturing went on rapidly. I saw that it was taking on a definite shape, and in a moment more it was a beautifully moulded head of a horse—eyes, ears and nostrils were faithfully carved out in the clearest ice. . . .

An expert interpreter might make a good deal out of that. Is there any allusion to "cutting ice" or was it a vision of the Bostonian girl stripped of disguises? Why did the erosion develop a horse's head?

March 26, 1898.

GEOGRAPHY OF MY DREAMS

I seem to have a geography in my dream country to which I adhere quite consistently. The familiar landmarks around home figure in their correct general relations, but the lesser features do not exist in the daytime. Mount Ida is always high and steep when I climb it in a dream and there is a solemn stretch of woods on top through which leads a broad white road. Out of the midst of the hill flows a stream increasing rapidly in volume until, where it passes through Newton, it is a swift rocky river about like the Souhegan at Wilton. The other night I strayed into a beautiful region under the northern slope of Mount Ida—shady ravines, clear brooks and cascades. How it all found room between Newtonville Avenue and the railroad I did not trouble to explain. Walking east, I followed a stream which must have been a tributary of the larger one I have mentioned. Presently I saw a spring issuing from a cleft in the ledges, and at the same moment discovered that I had a companion for whom I wanted to get a drink of water. A large tin cup conveniently developed in my hand and I climbed up ten or fifteen feet to fill it. But to my annoyance the cup expanded to a bath tub containing lumps of black loam and enormous earth worms. While I was rinsing it out I woke. . . .

When I go up the Charles river at night I find it flowing through a gorge near Brook Farm. The confining rock walls are rust brown with level stratification. To visit this spot I am likely to pass through Newton Centre, which I find destitute of

TEMPERATURE SENSATIONS BELOW NECK APT TO CALL FORTH (SUBROGATE) FANCIES OF TRAVEL OR OF EXPOSURE

trees and marred by one or two large factories on the main street.

As for Boston, it is much changed by night. It seems rather contracted; I can easily walk out into real country, particularly toward Roxbury. And there is a tract of lonely pasture-land in the West End with a few brick ruins. The waterfront is almost always in sight, and the docks are largely taken up with old white steamboats—probably because my very limited travel at sea has been on board such craft.

August 29, 1898.

SUPPOSED AWAKING DREAM

I never suffered more acutely in a dream than I did in Cuttingsville one night about three weeks ago. The unique part of it was that I passed through the ordinary experience of waking up and believed that I had waked up when I had not.

I do not recall what I had been dreaming when I slowly roused (as I thought). It was in every way the normal sensation,—I even felt the coolness of the air which Jacob Abbott made Rollo feel and which surprised me every morning as a child. I had no excuse for doubting that this was a genuine awakening. But to my distress and alarm I found myself crouching in the middle of a strange corridor. It was not wholly dark—I could see that there opened from it three or four doors, one of which nearest me was ajar. The room was slightly lighter than the hallway, as though it were early morning. My mind was painfully clear. I was conscious of my nearsightedness, also that my bare feet were on cold matting. I knew I must have been walking in my sleep. It was a terribly discovery, and I argued against it eagerly that I had never been known to do such a thing before. But the stubborn circumstance of my position silenced me. From thinking how I should distrust myself and to what dangers I should be exposed, I passed suddenly to the awkwardness of my situation. Where was my room? The corridor did not seem to correspond to the one outside my door, but I might be mistaken. The open door might be mine and I must make some move. I would steal over there. . . . Just at this point the scene faded out of my consciousness as gently as a dissolving view and the happy realization that my head was on a pillow and my body stretched in bed crept over me as a boundless relief. But this second waking seemed less real.

It is fortunate that we do not often confuse past dreams with past realities. We do this when we first wake, but it is not long before the setting apart of the two classes of scenes becomes definite. Dreams are seldom well remembered even at first, and they fade out very rapidly unless they have been remarkable or we have taken pains to rehearse them. Probably one thing that helps us to distinguish dreams from actual happenings is that the dream is isolated, standing in no connection with other events before and after and, in fact, affording no suggestion within itself of when it occurred.

RECORDER CLEVERLY CHARACTERIZES DREAM STATES—LACKS INSIGHT INTO ROLE OF RENAL AND SEMINAL SECRETIONS

In a large class of dreams I have the sensation of being a passive spectator. The absence of conscious effort in regulating the course of fancy is one of the sharpest distinctions between dreaming and waking. If I imagine a conversation with anyone I know I must invent what is said on either side, practically becoming each speaker in turn. But in a dream I only think for myself. The other fellow surprises me as much as if his remarks were not cooked up within my own cranium. The same ignorance that we have any part to play—the same sense that we can give ourselves up to contemplation—is still more remarkable when we dream of reading. The creation of the printed page involves no sensible effort. It is no wonder people have always believed that dreams come from without and show the working of other minds than the dreamer's.

September 19, 1898.

PLUMBER DREAM

Last night I listened easily to a long and fluent account of the woes suffered by a plumber in Newton Highlands. One of his patrons evaded paying a bill of several hundred dollars by legal trickery. The neighbors subscribed and paid the amount! It was natural that I should awake with a painful start from such an incredible dream. *A plumber of all men to command sympathy!*

This fabulous dream furnishes a proper conclusion for the long-drawn account. To avoid an anticlimax I will stop short.

* * * * * * * * * *

February, 1900.

FALLING DREAM

Just the other night I had a frightful falling dream. The double source is reasonably clear to me. I thought I had gone to the top of a dome of great height—it corresponded closely with the New York "World" Building, which I visited a month ago. Many people were with me. No railing surrounded us and the sensation caused by the iron roof rounding away from our feet was unpleasant from the first. It became more so as other men kept arriving, and I was crowded farther and farther from the centre. I was soon compelled to sit down. I dug my heels into a slight groove and rested partly on my palms, while I watched apprehensively two fellows —Hopkins students—who were in front of me and consequently on a steeper surface. The pressure behind forced me forward and the inevitable happened. The two men could no longer sustain themselves. Without a cry they began slipping with increasing speed until they shot over the cornice at the base of the dome and dropped into the depths, their dwindling forms revolving

GENITAL CLUES IN RABBIT DREAM OF NOV. 26 APPLY TO PINS AND BALLS DREAM BUT DOUBTFULLY TO CANNON-BALL

slowly as they fell. My horror was intense, and I saw no escape from a like fate. My heels were grating over the rusty iron plates when, happy thought! I said to myself: "I'm running this dream, and I'll run it to suit myself." Immediately I was descending comfortably in an elevator. *It is years since I read Notre Dame de Paris, but a scene in that novel seems to have helped me to picture the falling bodies.*

New York, September, 1902.

OF A CRUEL SPORT

In a dream which I had within a week the mosaic structure is exceptionally odd. Someone came to me with a book, in which I was shown a series of pictures and diagrams in explanation of a strange and repulsive game. It was to be played on a bowling-alley. But, instead of pins, living rabbits and guinea-pigs were to be set up. How they could be kept quietly in their places and up on their haunches I do not know, but this was demanded by the directions. The guinea-pigs were to be set at the extreme end of the alley—a pair of them—and in front of each, about two feet nearer the bowler, was to be placed a rabbit. The usual massive balls were to be used. Now the object sought by the player with all possible science and skill was to send the balls down the alley, past the rabbits, and curving in beyond them to mash the helpless guinea-pigs against the wall. The killing of a rabbit was to be avoided, and was penalized by a deduction from the score for every such accident.

I can trace this dream to many sources—to the use of these animals at school, to a pretty display of them in a window on 28th Street, to G——'s interest in bowling, and, I think, to some illustrations in "Alice in Wonderland."

New York, September 30, 1902.

OF BEING HIT BY A CANNON-BALL

(I had loaded the top of my folding-bed with books and pictures, thinking meanwhile that there would be a rude awakening if anything fell on me in the night.) Sleeping next morning, I dreamed that I was in an open boat on a sunny blue sea. I thought it was off Newport. A low and sandy shore-line was visible at a distance of a mile or more, and presently there shot up from it heavy gushes of smoke with jarring reports. I judged that a mortar-battery was in action. After two or three discharges I noted that I could follow the projectiles with my eye as they swept high in air and descended again. Suddenly I saw that one was coming my way. I had time to see that it was an old-fashioned spherical shot, when it landed on my head and I woke. *But nothing had really fallen upon my pillow; it was merely my apprehension which had created the excitement.*

From a Letter to G—— dated February, 1903.

OF AN ODOR

"Sunday morning, I dreamed of entering our house at Hull's Crossing with Mrs. S—— and G——. The house had apparently been closed for several weeks, as, in fact, it has. It was dark. As we walked through into the kitchen, we noticed

DREAMS OF ODORS AND OF OBJECTS STANDING ON END ARE PROBABLY SENSORY PERCEPTS—ODD TRANSACTION DREAM IS PSYCHIC

an odor of mustiness and decay, growing more intense as we proceeded. A sudden apprehension seemed to fall on us. Mrs. S—— said drearily, "They say there is a curse on this village." Trembling, I struck a match and went toward a dark recess where I knew the awful *Thing* would be found. The odor became the sickening stench of a putrefying body. The horror became insupportable, and I woke covered with goose-flesh, my heart beating wildly.

My mind was instantly on my father, whose health and whereabouts had given me much concern.

October 27, 1903.

OF AN ODD TRANSACTION

I was with G—— in the South Station. While she stood by I asked for two tickets to Worcester, received them, and laid down a five-dollar bill. Just then G—— declared she would not go with me and I asked the agent to take back one ticket. He said that he could not because he had stamped it, and I regretfully kept both. Meantime I had received as change due me a pair of fur-lined gloves.

October, 1903.

OF A GHOSTLY EXPERIENCE

I was on Brattle Street, which seemed quite deserted, though it was daylight. I was walking slowly by the closed doors of the buildings opposite M———'s. Suddenly I heard a series of rapping noises which seemed to come from within. I was impelled to open the nearest door, and saw before me a bare entry-way in half-darkness, with a flight of uncarpeted stairs leading to the floor above. Looking up, I beheld with chilling horror a simple walking-stick standing *on end* on an upper stair, and, while I gazed, saw it rise, move forward and descend with a sharp tap on the next step below, precisely as if in the hand of an invisible person!

I thought that I fell to the floor overcome with terror. Then, of course, I awoke.

1903.

EXPERIENCE AT A LECTURE

I went to the church to hear a lecture by Dr. D——— upon "The Holy Grail" (as, in fact, I was to do the next evening). Instead of the minister, however, a stranger appeared in the pulpit and began a rambling talk on architecture. I was completely distracted from the subject when a girl of about sixteen walked down the left-hand aisle and very cleverly *stood on her head* near the door of the minister's study. This was not the gross performance that might be supposed, for she kept her skirts confined between her knees. *I am gratified to find I have such a degree of modesty as to soften down the creation of my dreaming fancy in this manner.*

1903.

ANIMAL DREAM

C——— and I were seated on a fence on top of Killington. There were two or three cottages in sight within a quarter of a mile as we looked to the east, and I was speaking of a new road now open from

ON THIS PAGE FOUR DREAMS OUT OF FIVE GIVE SIGNS OF LOCAL SENSATIONS—DEATH IN FIFTH IMPLIES LETHARGY

these houses to North Shrewsbury, passing "Mose Lefevre's." A blue-gray beast as big as a buffalo suddenly raced over the peak. I pronounced it a bear, but have since realized that it was the enlarged image of our kitten.

May, 1904.

OF A WONDERFUL TOWER

Recently I dreamed of a tower, a section of which I can roughly represent.

There are three concentric towers, the central one higher than the others. To reach the top one must ascend the outer (1), descend the intermediate (2), and then climb the taller shaft (3).

May 27, 1904.

OF PROFESSOR T——'S DEATH

Last night I seemed to be in a small prayer or social meeting, perhaps in Wilton. A speaker had just finished, and Professor T. B. T—— began to say something about our Puritan forefathers. He did not rise. He uttered one complete sentence and began another, but suddenly his voice weakened, he stammered and was still. He slipped down in his chair and people gathered round him shutting him from my sight. I heard him gasp feebly—then there was a long, painful pause. "Campie" pronounced the benediction. As we passed out, I had a glimpse of the Professor laid in a Morris chair. "He's dead, isn't he?" I asked. "Yes," replied someone.

July 3, 1904.

OF A GHASTLY DILEMMA

I have recently had a carbuncle on my neck. Last night I thought that I took off my head and viewed the severed neck from beneath to see how the lesion is healing. To my horror, I found a deep and extensive cavity edged with necrotic tissue. At that moment I was further distressed by seeing a small organ,—perhaps the thyroid gland—tumble from my head to the dusty floor. "Good Lord!" I exclaimed, "it will not be sterile and shall I leave it out or put it back?"

In my anguish I woke.

November, 1904.

OF A GOOD ESTIMATE

I stood with Dr. D——, looking from a window upon a group of four or five young men who were engaged in flying a large kite. I was impressed by its great height. "Much as 1,200 feet, isn't it?" I asked D——. "More, I should say," he replied, and then he called outside to know how much line they had free. "5,750 feet," they said. I estimated that the cord led upward at an angle of 45 degrees and proceeded to calculate the vertical altitude of the kite, regarding the cord as the hypotenuse of a right isosceles triangle. My result was 4,000 feet—within 65 feet of the precise one (4065 feet).

Usually my mental calculations in dreams are worthless.

November, 1904.

OF AN UNWISE PURCHASE

I gave G——a pocket-book containing several hundred dollars, and

NEW DREAMS ALREADY PARALLEL OLD: COMPARE WITH OCT. 27, 1903—JAN. 3, 1898—NOV. 21, 1897

sent him out to secure a passage for Europe. He soon came back, giving me the balance of my money and my ticket, a very small one, enclosed in an envelope marked, reasonably enough, "First Class, $80." He also gave me a folder containing information regarding the line and its ships. These had odd short names of a Slavic form; I think one was "Apski." Suddenly I remembered I was married and must not leave my wife. I regretted my purchase and, asking G—— whether I could hope to sell my ticket to a scalper, I woke.

December 2, 1904.

OF AN ABSURD INDISCRETION

The other night my aunt came to see us. Afterward I dreamed that I was in the room with her, and suddenly discovered the neck of a bottle sticking out of my left-side pocket. I hastily turned it away from her and went to the pantry, where I hid it. I knew it to contain wine, but I had resolved to tell her, if questioned, that it was raspberry shrub.

December 21, 1904.

OF A FINE SPRING

Last night I thought I was in Georgia—Savannah, I suppose—and that I walked five miles or more into the country to a hamlet called Boulderville. Here I saw a sign, "To the Spring," and, going down a grassy lane, I found it beside a swift stream and near a railroad. It was a clear, copious spring welling up from the centre of a patch of clean gravel. I returned to Boulderville and spoke to a native of the fine flow of water. "Enough to fill a six-inch pipe," I said. "Yes," he replied; "a manufacturer from Chicago talks of piping it there (!). It would furnish one-thirteenth of the power needed for his factory."

December 22, 1904.

OF AN ENIGMATICAL ADVERTISEMENT

Last night I dreamed that I saw somewhere some pale green nightshirts on sale. They were of a heavy and lustrous material. A placard said:

"Silk *velours* (?) $17.85. (*Note that* $17 \times 5 = 85$.)

Best for ping-pong."

OF A FRIGHTFUL PLIGHT

I stepped from my train at Huntington Avenue, leaving the wrong side of the platform and threading my way between the cars which had brought me and another train on the next track. The space was distressingly narrow. I was following a young fellow, who was perhaps five yards ahead. The train on my right started slowly, moving with us, then the car abreast of me became derailed and veered toward the other train, which was yet standing still. The two ground together with a hideous sound. The man before me was caught, and must have been instantly crushed, for the space where he stood closed utterly and the contact extended swiftly backward. I was in a narrowing crevice. "Heavens!" I said in agony, "why doesn't the engineer stop?" Then, as a last resort, I dropped to the ground and let the bodies of the two cars jam above me.

CRYPTIC WORD DREAM FAVORABLE FOR ZADIG TEST OF INTERPRETER'S SKILL—OTHER THREE DREAMS NOT UNPRECEDENTED

January 17, 1905.

OF A NEW WORD

Last night I saw in our kitchen, upon the wall behind the stove, a mechanism such as is used in railroad stations to announce trains, a frame of stained wood supporting about twenty reversible slats, arranged in two columns. All but the lowest in the right-hand series showed an unmarked black surface, the last, however, bore in white letters the strange word *"ZIKERY."*
(*See March* 12, 1918.)

February 20, 1905.

OF A TRAGIC MYSTERY

I came along Central Avenue and reached a house which seemed to be the one next Mr. B—'s. I noticed with surprise that some accident, perhaps an explosion, had occurred there. Windows and ornamental woodwork had been shattered. In a moment I was horror-struck to see in the front room downstairs a young woman seated stiffly upright just within the window; her fixed, wide-open eyes and expression of congealed terror convinced me at once that she was dead. As I stood gazing at her I became conscious of a movement upstairs, and, glancing up, I saw another woman walking about in the room directly over that containing the corpse. I made gestures to attract her, striving to have her understand that there was something amiss below, and shortly she hurried down and came out of the front door. As soon as she stepped upon the piazza she turned toward the window which opened on it, when, catching sight of the dead, she started and fell in a faint.

This was too much for my nerves, and I woke in a tremble.

February, 1905.

OF AN ENORMOUS LOAD OF HAY

I wish I could recall more of a dream which is sadly confused. It was a preposterous one, I know, and the one feature I am sure of was a load of hay, towering to an amazing height from the low massive sledge on which it was drawn slowly along the snow-covered streets of a small village. It rose far above the buildings, and I could hardly distinguish a group of people riding on it. I asked a bystander how high it was, and he replied: "225 feet."

February, 1905.

OF THE FAIRBANKS MANSION

I have never seen this celebrated house at Dedham, though its picture is familiar enough. When I viewed it in my dream, the only odd thing I noted was that the middle section of the long rambling building was built of brick. Around the homestead stretched green fields in full sunshine. All was peaceful and quiet excepting that across the road a barn was burning with more smoke than flame. I felt a mild concern for the historic house, but, considering its distance from the fire and the stillness of the air, I believed it to be reasonably safe.

March, 1905.

OF VISITING A SCHOOL FOR NEGROES

Dr. H———was showing me one department and another of a great

ANOTHER DREAM OF SUPPOSED DEATH ADUMBRATES GENERAL RELAXATION—REMAINDER SUGGEST FAMILIAR DIGESTIVE EVENTS

industrial school like Hampton or Tuskegee. We ended by attending a students' prayer-meeting. Most of the pupils seemed to be mulattoes, but I remember best one very black fellow who led in a long prayer. He made frequent references to points of compass, and I observed that in every such instance each hearer pointed in the direction indicated. I was surprised to see that Dr. H—— imitated his neighbors, and I somewhat sheepishly followed his example. By and by the leader began to speak of some general who had just died—I have a haunting impression that it was General Hall, which may have suggested the word "hell." "Lord," said the speaker, "Thou knowest where he is, perhaps in heaven" (everyone pointed upward), "perhaps——" (the fingers dropped and pointed down, and the rest was silence).

March, 1905.

OF A TICKLISH DESCENT

I seemed to be in the old High School Building wandering through empty rooms. I was in an upper story. I came to a place where there was a hole in the floor and looked down. Below was a large room, of remarkable height, chiefly used for storage of chemical apparatus. I thought I would climb down by aid of a stack of shelves just under the hole. The distance to the floor was about twenty feet, and I felt dizzy as I started. The shelves made an awkward ladder, but I passed the upper ones and was gaining confidence when I came to one loaded with glassware. As I bore my weight on its edge, the shelf tilted and its unstable load of condensers and graduated cylinders shifted toward the verge. I struggled to keep my own equilibrium and to save the glass at the same time. Waging a losing battle, I woke.

April, 1905.

OF AN UNPLEASANT DISCOVERY

G——— and I seemed to be sharing a sleeping-room. Walking about there one morning, I noticed an offensive odor, and set out to find the source. I soon traced it to a table on which lay magazines and papers. Lifting several of these, I found a crumpled sheet of wrapping-paper, and under this, in turn, an amputated arm—seemingly a child's. It was noticeably decomposing at the cut end. I took G——— to task for leaving it there, but so far as I recall my feeling, the annoyance was no stronger than I should have experienced if the paper had covered the untidy remains of a meal.

April, 1905.

OF NAUTICAL EXPERIENCES

I often dream of sea travel, as is natural since I am so fond of it. I have just dreamed of being taken into the employ of the Baltimore steamers and of having a lesson in the duties of the pilot-house. I remember particularly the close questioning of a sharp-faced officer with brown side-whiskers as to the method of signalling with flags . . . Later I seemed to be off duty and sitting in a saloon of the same steamer as she tore along at wonderful speed through black, angry waters. I thought we were standing out into Massachusetts Bay. It seemed to be

LAPSE OF TIME HARDLY ALTERS SUBROGATE WATER IMAGERY NOW PLAIN AS ALSO KISSING SCRUPLES AND SLEEP DESIRE—SEMINAL PERCEPTS STILL VEILED

dusk of a cloudy day. Suddenly I was surprised to hear a railroad train. A glance showed it to be running on a low trestle parallel with our course. It was running at a high rate, but we left it behind in a moment. Then I saw houses near us—we must have entered a canal; the Universalist church shot by, our speed was checked, and a voice called: "Walnut Street, change for Newton Highlands."

As nearly as I can make out, the ship canal must have been cut from Boston to Newtonville, and it must have ended at the head of Washington Park.

August, 1905.

OF A DISCREET PRECAUTION

I thought that Mrs. W. (a neighbor not without attractiveness) attempted to kiss me on leaving here after a call. I drew away hastily, which might have been expected to give some offense, but had a different result. With much compassion she asked: "Oh, are your lungs affected?"—to which I guardedly replied, "I have a slight cough." She then expressed great sympathy with me as a prospective victim of tuberculosis.

August 1, 1905.

OF AN UNRELIABLE TIME-PIECE

This morning C—— asked me if I would look at my watch. The request scarcely penetrated to my stupefied brain, but conscience for a moment stirred uneasily. I thought that I reached out to the chair on which my watch lies and picked up a five-cent piece. I looked at the date. "Eighteen fifty-five!" I said; "oh, that is early,"—and, consoled by the idea, I sank into a deeper sleep.

February 19, 1907.

OF A POST MORTEM DISCLOSURE

This dream is a natural one to place with the preceding. I found myself examining the inside of my skull, which had been sawed through fore and aft and well cleaned up. I was not at all pleased to find that the back part of it had never been adapted to hold a brain, being filled to a depth of at least an inch with a white substance resembling mortar or cement. At another point a bulbous tumor took more space which my cerebrum should have occupied. My feeling of contempt for this abnormal head-piece was of the liveliest kind.

November, 1911.

A VESICAL DREAM

I opened a faucet over the set-tubs. There was a murmur of air in the pipe, but no flow of water.

This elementary dream is worth recording because a full bladder and the inhibition of its emptying are so perfectly symbolized.
(*See March,* 1918.)

March 2, 1915.

OF AN ORIENTAL (?) SAYING

"A man who had worshipped the gods, when he knew who he was, worshipped a wooden dog."

This curious sentence, apparently cynical in spirit, I seemed to read in a dream last night. I did not feel at the time that it breathed cynicism, but rather a beautiful humility. I thought it was from a Japanese

MOST PHOTO DREAMS BIOGRAPHIC—BROKEN MECHANISMS IMPLY BOWEL ACTION —CHURCH INTEREST HERE IS MARITAL—NEW WORD IS GENITO-SENSORY

source. My comment on it was very much like this: "This will be the spirit in which a new companionship between men and women will be developed." I was thinking at the same time that the reference was to the era of Women's Suffrage. *(The word "dog" is probably formed from the word "god" by reversing the letters, as Ellis had suggested of some similar cases.)*

October, 1916.

OF A STRANGE PHOTOGRAPHIC RECORD

I had seen a moving picture story in which the portrait of a criminal became permanently printed upon the eye of his victim. The next night I dreamed that a murder had been committed (I think Doctor C——— had been killed), and I was engaged with another man in a close survey of the premises. My companion had climbed into a dusty gallery that opened from a hole in the wall of a large bare room. Presently he called to me that he had discovered the identity of the murderer. I followed him into the confined space where he was, and we bent over a large brass-headed tack in the floor. On the head of the tack were two distinct images, in color, of a man we both recognized.

September, 1917.

OF A BROKEN WATCH

I thought that I had found my watch broken into three parts, roughly, into a half and two quarters . . . . . Bits of the internal mechanism were scattered on the floor.

The interesting thing about this dream is that the sources are so plain. First, my watch crystal is actually cracked along these lines. Second, I saw a woman lean against a railing and then draw back saying she might break her watch. Third, I have compared the digestion of the protein molecule—in one of my books —to the separation of the parts of a watch.

February, 1918.

OF A CHURCH

The church of the dream stood opposite the present one. It was a medium size, commonplace wooden building. I knew the denomination to be Baptist. The odd feature which impressed me was a block of pews on the green before the door. I understood that these could be occupied by people not finding room within. Through the open door they could look through the length of the church to the chancel and presumably enjoy the service.

March 12, 1918.

ANOTHER NEW WORD

"Is the *gennard* approaching or receding?" was a question discussed in my hearing last night. I thought the reference was to an astronomical episode (like a solstice).

March, 1918.

A VESICAL DREAM

I dream that a very small gilt cup of coffee is handed to me. I spill most of it between my knees and upon the rug. As I leave the room, I stop to examine an elaborate model of a war vessel. I find that all the depressions in the deck and the smoke-stack are full of water.

LAST DREAM AFFORDS STRIKING CASE OF DREAMER'S MIND WANDERING AFAR SHOWING UP ASPECT OF ASSOCIATIVE ERROR IN DREAMS

March, 1918.

OF A MAN FROM AFRICA

I had a pleasant chat with a stranger, who finally left me, asking me to call him up by his telephone number, "Africa 794." Immediately I saw, as though on a map, a part of the Mediterranean coast of Africa and the quotation came into my mind, "The parts of Libya about Cyrene."

Book II
Section 2

THE DREAM PROBLEM

Presented in Fair Samples

Dreams Exhibited in
A Random Selection

TWO DREAMS OF ONE YOUNG WOMAN CARRY ON ANXIOUS CONFLICTS ABOUT HER HUSBAND ILLUSTRATING RÔLE OF CHARACTERS AS SUBROGATES

File 80 **Oct. 27, 1912**

THE UNFORTUNATE BRIDE

I borrowed some money from a man. Then I drew a picture of a boy holding a caricature head of Mr. Roosevelt and had him say, "I wish this head was mine." This was a great joke. The man thought it fine, and advised me to make money out of it. I then evolved a new food, which I called Nutrita (New-treata). The man danced a jig.

Then there came a girl who was dreadfully downcast because she was to marry. The man she married, a tall, fine looking fellow, domineered over her, took away her stick which she was to beat him with, and finally she left him and married again, while he reformed. And I awoke debating whether to have happy ending or not.

The first man was a large fellow, in authority, and I consulted him in the same spirit I might consult a superior officer about a paper. The caricature, not exactly Roosevelt, resembled him in most details, and was peculiar about the lips. At first the boy was in a picture; later he became real and held a solid (pumpkin?) in his hand.

The jig was danced somewhat to my disapproval, but to the approval of three men (internes).

The girl was small, medium complexioned and pretty. She was followed by me (in spirit, as an author follows) through her adventures. There was a scene when her husband took away a stick and a branch from her and addressed her from a stairway (a short wide one) in an oratorical fashion. When she leaves him she becomes famous, and he repents and wants her. Here I deliberated whether to yield to the desire for a happy ending, but resisted it; had her marry (no one in particular) and the dream ended.

New breakfast food was in jar, top of which I screwed on tight.

File 80 **Oct. 25, 1912**

DEATH OF FATHER DREAM

I was in a distant place when there came a message to me that my father had suffered from a shock. My first thought was that this was very strange, his arteries were so soft for his years. I went away, probably where he was; but I was met by my younger brother, who told me that father had had another stroke and died. I wept bitterly and then we went out laughing and talking together. I met my older brother, who is a doctor, and asked him how my mother took it. He did not answer at first; and I said, "You don't mean to say she is glad," or words to that effect. He said, "You know he was getting to be such a burden to her that it was only natural."

Then the dream ended. I think it ended with a very depressed emotional tone. Woke up feeling very blue. Have forgotten interconnecting incidents. Started to write it up but finally said, "I won't bother."

File 82

STOCKHOLDERS' MEETING

I was in a room, quite a large room, and I had the impression that some kind of a meeting was going on, possibly a stockholders' meeting. Only one person in the room was

THREE MEN'S DREAMS SET TOGETHER HERE BY CHANCE DRAMATIZE HOPES FOR CREDITABLE ACTION—GIRL'S DREAM SUBROGATES ANIMALS FOR LOVER

distinct. It was my friend, C—— D——, who is vice-president of the Mining Company. The stockholders were apparently attacking him in various ways,—not physically, however. They were saying exceedingly disagreeable things, but Charlie was taking it splendidly. He remained perfectly suave and polite under it all, acting just as he naturally would in real life, for Charlie has the reputation of keeping his temper wonderfully. He was sitting there just as calm as you please; that was all. *I could not identify any of the stockholders, as I could see them only vaguely. I seemed to have eyes only for Charlie, who was sitting there quietly amid the excitement, and taking the abuse in a perfectly gentlemanly manner, as indeed he would, for he is always that way. Yesterday I read about the scene where the opposition heckled the Prime Minister in Parliament; also I have been reading about the situation that came up in the Company. There has been a great deal of criticism of the Board of Managers, and Charlie is one of them, being vice-president. I do not know why I should dream of Charlie rather than the Chairman of the Board, who is the responsible head, unless it may be that Charlie is a friend of mine. I do not think criticisms against the company are justified except that the chairman of the Board has not acted quite right from a legal standpoint. Charlie I think has been above reproach; he is a very fine fellow.*

File 83

THE WOLF AND BULLFINCH DREAM

I imagined that I was back in my grandmother's home and looking through one of the windows where the crumbs used to be put. I noticed the window was open; and then there appeared two creatures on the window sill; one was a large, gray wolf, and the other my grandmother's bullfinch. I knew it was Grandmother's bullfinch, because it wore a little blanket with the letters B. F. embroidered on it. The two creatures hopped down together from the window sill, and the dream ended.

Files 85 & 86 July 15 & 16

FIRST FUGITIVE DREAM

A crowd of men, including myself, had a man at bay and were about to seize him. He had a gun and started to shoot. I considered it up to me to go and catch him. He shot me in the side, but I knew I was not badly hurt. But, not wishing to be killed, I fell, pretending to be badly wounded. There was another man killed before I was shot, and his shirt was reddened with blood.

The shooting scene was in the open in daylight. A broken, hilly country, with one building in the background. I was wearing a white outing shirt and no coat. I remember it being stained with blood. The others were, I think, dressed the same way.

SECOND FUGITIVE DREAM

I was walking along a river-front neighborhood closely resembling that of the Hamburg-American Line

DREAMS OF BASEMENT CONFLAGRATION AND OF RUMPUS IN DISSECTING ROOM ARE PHANTASIES OF MEN REACTING TO CUES FROM UROGENITAL REGION

Docks. Ordinary crowd of men in the vicinity. Suddenly I saw a commotion in front, and saw a man being chased by an officer, the fugitive drew a revolver and fired at the officer, missing him. A man in front attempted to grab fugitive, but was shot down. I then tackled the fugitive, football fashion, and the crowd became thick. The officer had pounded him into unconsciousness when I awoke.

When I was about to grab the man, I felt hesitant about doing so, not wishing to be shot. On seeing him unconscious I felt relieved. — On awaking I was greatly pleased to find myself in bed.

File 88

BASEMENT FIRE DREAM

I found myself suddenly in a basement, which was filled with papers almost to overflowing, all thrown about the floor. Presently, through an inadvertence of mine, i. e., by throwing away a cigarette butt, a fire started. I was frightened and did not know how to get out. The room filled up with smoke and I was about to suffocate, when I discovered a window through which I jumped out, apparently without difficulty. Outside it was dark and perfect silence reigned, but the stars were shining. I could not see a living soul and I was worried on account of the damage that the fire might occasion. Suddenly I saw a policeman, and told him about the fire. He went with me to a fire box and turned in the alarm. In a moment a fire engine and several firemen came rapidly upon the scene. The peculiar characteristic about the engine and the firemen was their small size. The fire was put out.

File 89

DISSECTION DREAM

I dreamed I was in a dissecting room, and the body of a negro came to semi-consciousness. First indications: an attempt to assume sitting posture. We forced him back to the dissecting table, when he got up on the stumps of thighs and got onto the floor. While some were attempting to grapple with him, I ran and shouted, "Has any one here a revolver?" McGregor had one and pulled it from his vest pocket. I grasped it, asking, "Is it loaded?" at the same time looking into the chambers, which I clearly noticed were all empty save one. McGregor replied that the cartridge was a blank; but I decided to make an attempt to stay the evolutions of the cadaver. I rushed back into the dissecting room, where Hand and others were vigorously throwing the legless cadaver to the floor, when it would get up again, and, threshing its arms and rolling its head, would stump off. I shoved the revolver to the head and fired, but it had no effect. I again went out, and met one of the boys coming in with a Colt revolver; a great big long one. He fired several shots, and finally the cadaver became quiet.

At the same time, another cadaver was making endeavors to come to life. This was the one on which Hand was working, and was evidently that of a convict boy and husky. Much confusion was apparent, and I was going in and out of the dissecting room with a purpose

UROGENITAL CUE LEADS MARRIED MAN TO PHANTASY OF POLLINATION AND OF FATHERHOOD—PROFESSIONAL HOPES STIR BACHELOR TAMELY

of seeking means to stay the trouble, when I came in and found the cadaver on the floor and its head flattened out as if by a rolling pin, and in that way subdued; getting the impression that by some means the boys had flattened his head by using the blocks. In fact, I seem to have seen the last blows.

Leaving the cadavers on the floor, I opened the dissecting room door, and stepped out into a greenhouse, where I was talking with Dr. T——. He was taking me through the greenhouses and explaining to me a course of experiments in breeding of clover. He pointed out a pot of clover which had immense large leaves, the result of which breeding was a fine growth of clover-like leaves on a stalk; the leaves covered by a fine dust or yellow pollen, which he explained was the means of inbreeding. The general attitude on my part was one of complacent attentiveness. His assistants lent an air of inferiority. The clover leaves strikingly characteristic, with the white green center and large dark green borders.

Coming out of the greenhouse, I found my bicycle lying on the stone steps. I stooped down to raise it up, preparatory to mounting, when I was suddenly standing on a high hill by the sea. I looked down and saw a large flat fish in the phenomenally clear water. *One was especially large.* There was a bright sun shining. As I kept looking, several *flat* fish could be seen darting in and out of the sand under the water. I ran over to a Mrs. Tyler, and said something to the effect that I might borrow Henry's fish line. At the same time I thought and wondered if I could catch the fish without a pole, and was carrying on in my mind the scheme I was going to use to get the line out where the fish were, and wondering if the splash of the sinker and hook would scare the fish. I told Mrs. Tyler that the fish were flat fish. She exclaimed, "Flat fish!" I said, "Yes, aren't they good to eat?" And she, giving an expression of dramatic intensity, clapped her hands and said, "Splendid!"

File 90

VISIONARY DREAM

Scene 1. I had been on some sort of an expedition or mild pursuit of adventure with a friend, who seemed to be in straits so far as financial resources were concerned. And we went finally into a house which we found occupied. He seemed possibly to have some sort of a family: I don't know whether he was married or not married, but he was in some way obliged to provide a home for himself and for others. We went into this house and found that we could occupy a corner of it. Very likely the house was not complete. We got settled in one of the upper rooms, feeling very much as if we were living in a small section of a barn, but he and I settled there.

I began to feel quite at home, but expected that more comfort could be afforded, and I made a proposition for restoring different parts of the house, and went on scheming and planning on a larger scale; at least on a scale of trying to put things ship-shape. He reproved me, and called me to order, reminding me

PROFESSIONAL AMBITION OF BACHELOR FABRICATES FAMILIAR CONVERSE WITH GREAT EDUCATOR—LITTLE CHILD FULFILLS SIMPLE WISH

that what they were after was a minimum; just something to live in; not necessarily something to take any pride in, or to work out along lines of perfection. And then it seemed to me the house was shifted or changed a little. I left it anyway

Scene 2. Then the house didn't seem to figure any more, or that neighborhood didn't seem to figure, but I found myself in a fairly comfortable house which might have been up in Maine. I think it was in Maine. There I recognized the cousins and friends, and I know that, for a while, I was in one room giving lessons to somebody. This was a sort of back parlor with windows in it, on two sides. This was the second scene.

Scene 3. I found myself in the front parlor near a lamp, and perhaps near the fireplace, and there were rather closely arranged chairs and a table, and on the wall between the fireplace and me (I mean toward the back of the room, toward the back parlor) there was some sort of an exhibit like the mental hygiene exhibit. In the room President Eliot stood, and somebody who might have been Miss K——, or some social worker; possibly my cousins, the Misses H——, may have been there, or it may have been a blend of the H——'s and my other cousins of the same name whom I visited in Maine.

I talked with President Eliot and suggested to him, in a rather pleasant, breezy manner, that it would be a good idea for the people who exhibited the charts to get together and agree as to what they would say about them. I remarked that I had found myself dropping into heterodoxy every little while. I then apologized for expressing my opinion so breezily, and asked him what he thought about it.

He drew up his mind, as it were; drew himself up a little bit, and very courteously and urbanely said that he knew the exhibits were very important and that these things were very interesting but he didn't know just to what extent it would be necessary to treat the plan of explaining them.

I had the distinct feeling that I was very much a part of the Mental Hygiene work, and was accordingly satisfied with my wishes.

I think the dream, on the whole, expresses the feeling of being satisfied to get along at the Hospital without certain improvements that I may have banked too much on, and that there are other ways in which I can satisfy my interests; namely, through keeping to my own line of work and taking up the mental hygiene side of things. Perhaps some suggestion of private practice and of special work with the Mental Hygiene people is suggested by Scenes 2 and 3.

File 92

CEREAL BOWL DREAM

"I dweamed dat I was home in Concord and I was eating out of my silver ceweal bowl and I scraped and scraped and got all fwou' eating and I kissed the darling duckie little wabbitt in the bowl."

The above evidently referred to a decorated silver bowl, which the little girl used at home. During her visit she missed the silver bowl and

THREE DREAMS OF SMALL GIRLS ARE GOVERNED RESPECTIVELY BY BODILY CUES, ALTRUISTIC DESIRE, AND DAWN OF MATING INSTINCT

complained of having to eat out of crockery instead.

File 93

OUTDOOR SLEEPING DREAM

I was out doors in bed. There were lots of beds around me with Miss W——'s boarders in them. In the bed next to me was M—— B——. I was very cold, and only had three pieces of paper over me, and I kept crawling under them until I came out the other end. I saw an animal (a pig), and I was so frightened that I ran and ran, I did not know where. Afterward, I found that I was running around and around a tree. The pig grunted, and I woke up (in my dream). I could not go to sleep again because M—— B—— kept jumping up and down.

She had a pole under the bed and was poking me. She got it out and poked me and kept jiggling around. It was something like a stilt, but did not have that foot thing on it. I got mad at her. I was cold and mad and that was what made me push under the covers. Whenever she poked me, it made a bang of a noise.

File 95

COUNTRY FAIR DREAM

I dreamt I was going to school. There was a sort of fair in a big, huge tent. I got out and walked round and found a nice lady. Then I saw Aunt C—— with a winter hat and green veil. She said nothing but shook her head. The lady was a nice lady, but her eyes looked as if she had just been crying.

I saw a box of handkerchiefs. Seeing the box reminded me that B—— needs handkerchiefs. I looked to see if there was a B. But I saw a J. I asked the lady for a B handkerchief. She opened a box with many handkerchiefs and only B on them.

File 97

ROOSEVELT-TAFT DREAM

I was at dancing school. Miss Peel was the teacher but she had a different name. (*Miss Peel has been married and I don't know her name.)* She had a black dress. It was at Miss White's schoolroom, only it was much bigger. We sat at one end, and at the other end was a platform with steps on both sides. On one side of it was a chair, with Taft sitting on it. There was another chair on the other side, with Roosevelt on it. No one was watching us. One boy kept dancing with me. Roosevelt got up and walked up the steps, and said: "This boy can't dance with one girl all the time, he must take different partners." I don't remember what the boy looked like, but I danced with the same boy. I don't remember the others. Roosevelt went on with a long speech. Then Taft got up and walked up the other steps; and he said to Roosevelt, "Why should not the boy dance with the girl all he wants? They might want to get married." Then Roosevelt said, "I'll bite your nose off," because he had such big teeth. Then Taft began to jig up and down and he broke through, and there was an awful collision. The whole steps fell over; then it was dark; and then I woke up.

BUOYANT SMALL CHILD'S DREAM REFLECTS SPORTING ZEST WHILE SLIGHTLY OLDER SISTER'S SHOW MALADJUSTMENT—A RIDICULE DREAM

File 98

FISHING DREAM

Father and Will and I were rowing around the Island. It was right opposite us, and I had a little pail with a net on the end, and a cover. When I put it in the water, the cover came off and sank.

Father said, "Let us look into the pail;" and there were twelve flounders. I gave them to the people on the island; and I caught eleven more, and we had them for dinner. Mrs. C—— fried them and we each had a little piece.

File 99 August 2

FROG POND DREAM

I was a frog with a brownie's head. We were in a pool. We got in a ring and played leap frog. While we were playing, a girl came down to the pond to bathe. The girl looked like the cover on "The Little Lame Prince." She dove down and came up again. When she came up again, we got on her back, pulled her hair, took hold of her hands and feet, so she could not swim; then she had to go home through the woods. After she was gone, we got horns, whistles, drums, and trumpets, and played for a long time. We got great big shingles, and sat on them, and got sticks and rowed around. The girl's hair was brown. The frogs were green.

File 99 August 3

RAINY DAY DREAM — SCENE I.

It was raining. We were on the porch of our house here, and there was a noise out in the pasture where the wall is, and Johnny went out to see where the noise was, and he was scared away from the well by a "bogie man."

It was the hooded well back at Grandmamma's city home, not the well here.

RAINY DAY DREAM—SCENES II & III

We were at a house at the steamer landing, and grandmamma had come on the steamer to visit us. Peggy ran to kiss her, but mother said she mustn't, because Grandmamma had germs all over her dress. [All this time it was raining.] We were waiting for the motor boat to take Grandmamma home with us, and the motor boat did not come. We did not know why and thought maybe the engine had broken down again. I was so mad that I made a fist and hit the railing of the porch just-like-that! And it turned into a pillow and I woke up. Oh, I was so mad!

File 101

FAT LADY DREAM

I was out sailing. We had strawberry ice cream at lunch, and then we fished and I caught a great big fish. A stout lady fell overboard, and she looked so funny in the water, but I did not know her.

The day before everybody was out of sorts because of the bad weather and the spoiling of a projected sail with friends. The dreamer was the most disappointed of all. She had been especially invited to join the yachting party, and her mother had arranged to take strawberry ice cream along. There was to be deep sea fishing and she was hoping to catch the biggest fish.

TWO DREAMS OF SMALL GIRL HINGE ON SEX LIFE OF ANIMALS BUT THIRD DREAM PROVES SEXLESS DESPITE FREUDIAN "SYMBOLS"

Further questioning of the little girl dreamer brought out the fact that for some unknown cause she was antagonistic toward her mother, and in her dream the child had vented her resentment by imagining her mother's discomfiture in being stout as well as falling into the water. The mother previously had expressed a fear of getting stout.

File 103 **July 24**

HAWK DREAM

My dream was about a hawk, a great big bird, about as big as this room. And well, it stole — was going to steal — a hen and a rooster. And I was out feeding the chickens. I saw the bird, and went and told Mr. C ——. He came and took the big bird that had hold of the hen and the rooster, and put it through a hole in the fence, and put the hen in a private hen-house, and the rooster in another private hen-house. Then, the minute he took the big bird out of the coop, it changed into a funny lady, about that tall, — look! (2½ feet.)

Mr. C —— went and took the lady into the living-room and stuck a knife into her side. She said, "Hurry up, I want to see you cut me in two." And Elsie and I could not stand it, so we went out of the room; and when we came back, the organ was playing, and Mr. C —— was blowing the horn, and I sat at the organ and played.

And then everything stopped, and it was broad morning . . . broad daylight.

File 103 **July 25**

SECOND HAWK DREAM

It begins just like the other. I was out feeding the chickens, and I saw this great big bird, and it was flying around, opening and closing its mouth. I told Mr. C ——, and he went and got a big pole, and whacked and whacked it till he killed it. And the big bird had wanted to eat the chickens, and the chickens ate it up. When the bird opened its mouth, the upper part of the bill turned up (right up to where my ribbon is), and the lower part of the bill turned down to his waist.

File 103 **July 18**

SNAKE DREAM

I dreamt there were snakes all around. One kind was very poisonous and the other kind was not so poisonous. The kind that were not so dangerous had heads shaped like a square. The other kind had little handles in front of their heads. And father was killing the dangerous kind. The way he did it was to hook a stick through the little handle and hold the snake so it couldn't get away, and then he would use a stick he had in his other hand to kill it with.

Shortly before the above dream occurred, the father of the dreamer had picked up a dead snake on the roadway, exhibiting it on the end of a stick to the children. Earlier yet, the father himself had killed a snake, thus occasioning an explanation as to how to distinguish dangerous snakes by the shape of the head.

It transpired that the child had been warned against going near the well situated behind the house, since it had long been unsafe; although just now repaired and topped with a square of new boards. The concord-

TWO DREAMS OF SMALL CHILD AND ONE OF COURTED YOUNG WOMAN SHOW PERSEVERATING RIVALRY BETWEEN DRIVES OF DESIRE AND FEAR

ance between the poisonous snakes and the perilous well now became obvious. The child was strangely reticent, but denied having been to the well. By degrees the story came out. The day before the dream the nurse had promised the child to let her try the exciting operation of drawing water from the well—now safer—under due tutelage. So far, the child had not gone near but had perched on the pasture gate, from which point she would view the impressive performance.

The bucket is hung by the handle on a notched stick affixed to a much longer pole, the combination being lowered into the well till the bucket fills. This operation would strike the child as more perilous than merely approaching the square top of the well. Hence—the more dangerous kind of snakes, whose heads were conveniently supplied with handles through which could be passed the stick! The father killing snakes in this way merely stood for the act of drawing water from the well—and anticipated it.

SAILBOAT DREAM

I was playing around on the deck of a sailboat and I fell into the water and I called to my little sister Peggy to save me; then I woke up.

The mother of the little girl who dreamed the above says they had quite a scene on a sailboat the previous day, due to the fact that the little girl persisted in her wish to play on deck, and had to be stopped in full career, because of the danger of falling into the water.

File 106

ACTIVE HORSE DREAM

I dreamed I was leaving the Z—— family, and was engaged all day in packing. I said "Now, I must go and say 'Goodbye' to my family." It takes two hours to go there, but I started.

Just ran into house. I said, "I am going away." I said the name of the place. "Can't you stop?" "No, I must go in a hurry." "Going to have a party. Please stay. Won't you wait until Gertrude comes, and see her, anyway?" "No, no, ... I must go right away. Mrs. Z—— is going to have a party today; is it not too bad that I shall have to miss both of these parties?"

Then I said I brought some dresses. "I don't need that one, or that one, or that one; you can give them away; but I want this one."

And just as I went out of the house, a carriage drove into the yard, and in it was my sister, Gertrude, with some of *her* friends who were coming to the party. And she greeted me, and I said, "I cannot stop; I have to say just 'Hullo' and 'Goodbye'." Then another carriage drove up, and my aunt was in that carriage. Meanwhile a horse, a great big, beautiful animal, came galloping in, and seemed to be coming right at me. I took a stone and threw it at him, and he kicked up his heels and galloped away.

Then it seems that my little boy cousin, who had brought my aunt, drove away, and I rushed after him and said, "Oh please, Reuben, Reuben, give me a ride; I am afraid I am going to miss the six o'clock car." We drove along then. But I

A GIRL, A HUSBAND, A WIFE, A WIDOW BETRAY SERIOUS CONCERNS BY SUBROGATIONS — FEATHERS ON CAT (EPITYPE) SUBROGATED FOR MALE

seemed suddenly to be walking, and I met a neighbor and said "I am going to leave tonight for —" and I could not think of the name. I said, "How stupid I can't think of that place;" and she said, "Was it some place in New Hampshire?" I said, "No, no; it is in Massachusetts, some place that begins with C;" and I missed my car, and said, "Well, I'll have to take the next one." I thought, "What shall I do? I have sent word to that lady that I would come this afternoon. I'll have to stay in Cunlife all night and start in the morning." So I got to Cunlife all right, and I met Mrs. Z —— and Baby as I was walking up to the house. I told Mrs. Z —— about my experience, and that I should have to stay all night; could not possibly go that night, it was so late. And so I stayed there all night and started the next morning; and that is the end of it.

File 107

THE CATASTROPHE DREAM

I dreamed of being in some office in a tall building; it was not my office, but one next door to mine, perhaps. Elizabeth was with me. Then I found myself in the street. There was a great catastrophe in progress. And people were rushing around in this sort of earthquake scene. I was trying to save myself and Elizabeth. Great columns around State Street were falling, people were dodging them and being hurt when they fell on them.

Then in the last scene, I was in some place that might have been at home, i. e., possibly with my mother's family.

File 109

AN AIRCRAFT DREAM

I was driving the motor car, intending to stop for my husband and Mr. O —— and bring them home to dinner. I decided to try to get Miss L —— to go back with me, and I saw her riding by on horseback. I stopped her, and we had a talk, in which she asked me to sup with her but refused to come with me. Then the motor changed to a sailboat in the air, containing Mr. K ——, Mrs. J ——, and myself. There was trouble in sailing it, and Mrs. J —— broke the helm; and to our consternation, she s t e e r e d through the arches of a tall, unfinished building. We came to the ground before the front door, where there was a body of sedate men sitting in council.

File 111

PERSISTENT CAT DREAM

At the beginning of the dream I was in my sister's room. I noticed that it was expanding, as it were, and that as I looked there appeared closets in it. While I was noticing the expanding features of the room there appeared two cats. I wanted to chase them away and shoo them into the hall, but I could not get rid of them so easily. One of them was a very persistent sort of an animal, and I had to go to fetch a broom to get rid of this cat by threatening him with it. I noticed that the cat in question had the tail of a rooster with white feathers in it.

I chased the cats out of the room and watched them running downstairs, and returned to my sister's

BIZARRE RÔLES OF INANIMATE OBJECTS BROUGHT FORTH IN MARRIAGE DREAMS OF WIDOW AND OF ENGAGED YOUNG WOMAN

room where I noticed that she had a lot of pretty things, and I went around enjoying looking at them. Then I found myself walking with my oldest son, somewhere in the open by a row of houses which were on the water's edge, and beyond these houses, as it were over the water, I observed what looked like some trestles or new construction.

Then I found myself squeezing through a narrow hallway, which I knew to belong to Mr. S——'s house. I criticised in my own mind the fact that this hall was hung with clothes, which I thought was a very unpleasant way of managing things. At the end of the hall I reached a larger room, which seemed to be mine. There I was watching the guests coming in to dinner. Among the guests who entered this dining room, which seemed to be mine and yet not exactly like the one I have now, there appeared Mr. and Mrs. X——, with two children. These were introduced by Miss A——, and I was glad that she had come and brought these people with her.

In addition to the guests mentioned, Mr. Q—— appeared in the dream at this stage. He came to sit by me on a bench, out in the middle of the dining room. He took hold of my hand, and I remember that my sense of weariness at the time was greatly relieved by his hand-clasp. But I had a sense of anxiety on account of the conspicuous appearance that I was making, sitting there on the bench. I was also annoyed because my personal appearance was not what I should have liked to have it, particularly the untidiness of the hair and of the part disturbed me, but I continued to sit, holding Mr. Q——'s hand. Presently I got up and started to set the table for Mr. Q——. I put some brown candy cakes on the table, so that I could eat them, and I tasted them. But when it came to putting the rest of the table in order, there seemed to occur a resistance. For the tablecloth began to shrink up and the tableware became unmanageable and fell to the floor. Thus I was not able to set the table for Mr. Q——.

Certain features not hitherto mentioned are worthy of notice. I thought of an alcove in my sister's room, particularly, this being one of the things I noticed in the room as it enlarged. Further, I noticed some glass shelves in the room. And, lastly, there was the fringed cover of the piano which attracted my attention.

File 112

MARBLE STAIRCASE DREAM

I was sewing a marble staircase, and I kept on doing it until it made two little houses; one on each side, and apart.

Had seen a drop curtain at a moving-picture show depicting a marble staircase with statues on one side, and a man and a girl on the other. Under the curtain was written: "Imitating nature." The statues were two lovers, and the man and the girl on the bench were lovers.

File 114

DROWNING DREAM

I was running away in the dark, as one often does, without knowing

DREAMS OF PROGENY IN CONNECTION WITH WATER SHOW PHYSIOLOGICAL SUBROGATIONS—CONTRARIWISE, BLINDED EYE DREAM LACKS BODILY CUES

from what. I ran through a large garden, I think on a grass path. Soon I was stopped by a tiny, round pool of water; there seemed to be no way to get around it. Almost immediately there were crowds of people (perhaps a hundred) close to me all about the pool; I think they had come from behind me. The edge of the pool was grassy and very soft. I was in the water, and I plunged for the middle, and my green dress got around my feet. It was very cold and I remembered I could not swim, when somebody caught me by the throat. All the faces of the people on the bank showed up then, very ghastly, and the whole dream was over. It was summer, and clear, but very soft, very dark. There could have been no moon. The something that seized my throat was neither a man nor an animal, but I did not get a good look.

File 114

INJURED CHILDREN DREAM

I dreamt of a very muddy street with some six children, all lying face down, in it. I was dimly conscious that they had been run down by an automobile, though they bore no outward sign of injury. They all floated by me slowly on a muddy river (I could see the current). Then a policeman and one other man came and looked at the children. They stood in what should have been the mud of the street, but was really the surface of the river. I was vaguely conscious of wondering where the crowd was, when the whole dream disappeared as suddenly as it came.

I don't know how I knew the children had been run down by a motor, but I was sure of it. I think the policeman kicked one of the children's bodies, the one nearest him and diagonally furthest from me.

I knew there was a block of houses, brick and wooden, on each side of the muddy street or river, but I could not see them. I stood where the right-hand sidewalk should be. (I was not present, I only saw it.) It was very foggy, thick weather; rather cold. I think five of the children lay in a confused heap; one much the oldest (about six years old) was conspicuous; the sixth lay apart, much nearer me. They were fairly well dressed; the conspicuous one wore a blue jacket, the rest of the clothes were rather white. The policeman wore a noticeably nice uniform (like the New York policemen). The shabby man wore clothes once black, and slouched, with his hands in pockets.

File 115

BLINDED EYE DREAM

My dream was about being at dinner with Mr. H——, who was blind in one eye, and sat at my right. Mr. T—— sat opposite me, and the chair at my left was vacant, as Miss B—— was away that night. *(Mr. H—— was blind in his right eye, so could not see Mr. T——.)*

File 116

MEAT MARKET FIRE DREAM

I dreamt I was on a trolley. Some one called, "Fire!" and every one

TWO DREAMS OF YOUNG WOMEN DEAL WITH OBJECTS PECULIARLY PLACED ON SALE—CRISIS REFLECTED IN EACH IS SOMATIC RATHER THAN PSYCHIC

began running toward the door. All seemed confused. I was alone but went with the crowd; could hear the fire bells, but do not remember seeing the engines. The next I remember, I was on a street built high up on both sides, with brown stone, high-step houses. People were standing on the steps, and there were a great many in the street. None of them, however, were people I've ever known. I had on a raincoat but had no umbrella, and I remember feeling contented that I had on an old hat. It was not raining, but cloudy and disagreeable, and very bad walking.

I started in one direction, but found the crowd going the other way, so turned and went with it; and next I remember coming to a store on a corner. People began running in here, and I found the fire was here. There were two or three steps at the entrance, and I went up these and in. This was the most confused part of the dream, for the people crowded up here and began pushing and jostling each other, and some fell up the steps. The store was brightly lighted, and although I seemed to be conscious that it was a big store, I could see only a small portion of it. Right on a counter close to the door, there was a great deal of meat, and this was burning. It was red and curled up around the edges, and there seemed to be lots of little blue flames around it. That was the last I remember noticing, except that the clerks were apparently undisturbed by the fire, and continued cutting up the meat.

The trolley was like the Broadway cars, with cross seats and entrance and exit. The crowd paid no attention to this and went out both sides.

Not a person, or place, or incident was familiar, except my raincoat, and I remember seeing the tear which actually exists just above the pocket.

File 117

TRUNK SALE DREAM

I was in a large store, a department store like Gimbel's, but I knew the proprietor, so I don't think it was a department store. It reminds me more of Madame Bonnet's store, in so far as I know her and would be likely to be in her store. The proprietress was having a sale, a sale of trunks; and there was a pile of them that she was trying to sell off quickly. A device which she had adopted to attract attention and to influence purchases was to have some of these trunks marked as if already in use. One of these trunks was marked conspicuously with the name *Mary*, and she was very proud of the idea that this would help in selling the trunks. But I did not think this a very good scheme, and I suggested one which I thought very much more clever. It was that she should mark the trunks, "Search me."

File 118

ROSARY DREAM

Two children were sitting in the sun, playing with small black rosa-

SPURIOUS DREAMS INTERPOLATED BETWEEN REAL DREAMS SHOW CONTRAST IN THE STYLE OF NARRATIVE

ries, on the broad gravel path behind The Luxembourg Palace. The back of the building and the path were bright with sunshine. In the distance and behind me the trees were all bright gold. The general effect was of warm sunlight, bright gold hazy light, quiet air and silence. My interest was in the children, who were absorbed in playing with the rosaries; not telling the beads, but letting the whole chain slip from one hand into the other. I had a strong feeling that something was going to happen to the children, and I was curious to see what it would be.

File 118

NEW ARM DREAM

I dreamt I was walking along a road, when a big white duck said to me, "Bert, you can't do it," referring to my claim that I could grow a new arm if needed.

"Certainly I can, crabs do, watch," I replied, and I took a cutlass from a bookcase and nicked my arm, shook it, and it fell off and walked away on its finger tips to the river bank, where it shook hands with a tobacco sign and disappeared.

I walked, or rather floated in an automobile just above the ground, into a large garden where pansies were drinking tea and playing checkers, but their dresses blew so in the wind that we all skipped ropes instead. The blue pansy held my rope for me because my new arm was too little to work. Music played faster and faster and I jumped higher and higher, till I leaped out of the automobile and found myself in bed.

File 118

PAPER PURSUER DREAM

I dreamed that I was making tea on a great plain of snow, somewhere down in the Antartic. I was sitting on my sled with the dogs near by, trying to keep the wind from the alcohol lamp. The other members of my party were pitching the tents a little way off.

There were high jagged mountains with bare grey stone tops in the distance. Suddenly I heard something behind me. I turned and saw a large piece of brown paper coming towards me with a malicious expression of form. I dropped everything and started to run away, and ran for miles and miles and miles of frozen waste, with the paper always just behind me. It was about to catch me when I woke.

The tea-making was only an instant while the chase seemed to last for many hours.

Both my companions and I were dressed in ordinary clothes but carried rainbow colored chiffon scarfs to keep our elbows from freezing. The dogs, sleds and provisions were perfectly correct as Arctic equipment.

File 118

FORTUNE TELLER DREAM

I was in Mrs. L——'s sitting room with her and two or three of her women friends. We were chatting quietly when a strange woman walked in and announced that she would tell how long we, each, might expect to live. Each one of us was asked to draw a heart with an arrow through it. I thought, "How ridicu-

IN REAL DREAMS A CERTAIN FAITHFULNESS TO UNDERLYING CUES IS SHOWN BY THEMES SUSTAINED MORE SMOOTHLY THAN IN MANUFACTURED DREAMS

lous! Perhaps it is possible to tell character by handwriting and trains of thought by dreams, but this person's pretensions are too absurd." However I kept my thoughts to myself, and we each made a drawing on white paper. Then the strange woman looked at the drawings and told one woman that her heart was weak and she would die young, and another that she would die suddenly, at about fifty. Then she looked at Mrs. L——'s drawing and forgot all about the future. "Oh! you are a wonderful woman: wonderful breadth of view, remarkable courage and initiative, and a great big heart! A most unusual character, everybody loves you." This pleased me and also aroused my interest, and I curiously awaited what she would say about me, which was, "Why, you're a double-hearted creature; see that jog in your drawing; you're very fond of your friends, but your heart will never get the better of your head." I felt rather piqued because she thought me calculating, but she explained that she didn't mean that. I was unreservedly fond of my friends but not rash about new acquaintances. Then the dream went off into a lot of vague remarks, and I woke.

I might add that the impression given by the woman's remarks about Mrs. L—— was even stronger than her words. No one of us knew the fortune teller; she simply happened in.

File 118

EDUCATED CAT DREAM

I was having my scalp massaged, when a large tortoise shell cat walked in and waved its tail, so I followed it till it went down a rat hole, which I couldn't do, so I went through the floor instead. Then rows of little newsboys began to sing the anvil chorus, with the cat directing, but the cat's necktie slipped, so it jumped to the Flatiron Building and began to meow.

I said, "Don't do that: Steam whistles are bad enough, express yourself by dancing thus." Then we started up Broadway, dancing the hop waltz, but we got so warm that we went into Martin's, where the waitress refused to serve a cat, but I gave each one a steam yacht and we all went down the bay to see a bull fight.

The room where the dream started was the real room where I go for shampoos. The cat grew continually larger until we reached Broadway, when it was quite large enough to dance with properly. The little boys were just the New York newsboys, and the cat used an ivory baton.

There was a great crowd on Broadway, and the reason we grew warm was that we had to bump our way through. The crowd persisted in closing in around us, but whenever we hit anyone he moved. There were no special faces, just masses of moving figures. The newsboys all had rather jolly faces with big mouths and twinkling eyes. We only took hold of hands when we walked. When we entered the restaurant and when we all reached the boats, the cat was the ordinary size again.

TWO RAILWAY TRAIN DREAMS INVOLVE SOMEWHAT OBVIOUS SUBROGATIONS FOR PHYSIOLOGICAL CONCERNS—AIRPLANE STANDS FOR FALLING SENSATION

File 119

SUITOR'S DREAM

I had a dream about my girl. Naturally dreamed of visiting the city where she lives, where I have seen her recently. Dream was very unsatisfactory in that I did not see my girl.

Her town is on a branch line, and the depot is an ordinary store on the street. My girl always meets me there. The trip on branch line takes two hours and a half, so is a monotonous trip.

The first thing I remember I was on train coming into the city and I had a feeling of being mentally worn out. I was worried because it seemed to be running by the depot without stopping, but finally it did stop and I got off, and was disappointed not to find my girl there.

Next, I was at her home talking to her mother. *She* was not there. I was not surprised but had a general feeling of loss. I was explaining to her mother in great detail how certain parts of the Montessori apparatus were made. I was showing her how it was mechanically constructed; not its purpose or use.

File 119

LIVE LOCOMOTIVES DREAM

I dreamt I was going to California with Stuart, to his wedding. I knew that we would be killed in our berths on the last lap of our journey. During the last evening, the train stopped, and we got out on the right of way. There were four tracks, with engines running on each. There were two kinds of engines, the regular kind, and another that was like a steel horse with four legs and two headlights, very bright, for the eyes.

I picked up some nuts fallen from high umbrella-like trees, (with the foliage all at top). The nuts were Chinese nuts, such as I used to get in California, but without the shells, — kernel only, like a sweet prune, and I remember the good taste.

Stuart said, "Let us stick to the old-fashioned engines;" but I said, "No; I am going to ride in the horse engines; and I will ride them until they are so perfected that they can wink their eyes."

File 120

AEROPLANE DREAM

Murphy was in an aeroplane with another fellow whom I could distinguish; going very fast, when they suddenly plunged to earth. I ran over to help Murphy, whom I thought was killed. He got up and greeted me, and was not hurt at all.

File 124

PRINCESS DREAM

I was in the house next door. I came out, carrying things in my hands. Among them was a bunch of heliotrope, and I thought how fine it was that they were flourishing so well. I was a princess.

I had been thinking of flowers; had had several unsuccessful heliotrope plantings. I had hoped they would double this year, and had been planning the bed. The night before, had dreamed of another kind of flower under similar circumstances.

TWO ROMANTIC DREAMS OF YOUNG WOMEN FURNISH EXAMPLES OF FREUDIAN TYPE OF SUBROGATION AND OF SYLLOGISTIC TYPE RESPECTIVELY

File 125

STALACTITE DREAM

My dream was about going through an underground place with Somebody.

In my dream, I found myself in a large cavern, well underground. There were stalactites hanging from the roof of the cavern, and I was there with some other people. We had on our bathing suits. I was guiding the rest through the cavern, which I knew at the time was somewhere abroad. We eventually came out at Lake George. I do not remember the other people very clearly. I can remember only one other person in fact. Perhaps I led him by the hand.

File 126

A PROPOSAL DREAM

My dream was about a proposal of marriage. Mr. W—— was calling on my friend, Miss M——, and myself, one evening. At first, the conversation was general, but gradually Mr. W—— seemed to get more and more absorbed in Miss M——; and suddenly he burst out in Italian saying "Mia bella" and other demonstrative things. I felt that I was in the way and ran out of the room, down the corridor, into my room, as fast as I could.

After a little while Miss M—— joined me there, and I asked "when it was going to be." She then replied, "I don't see how he is going to see this through."

After that I woke up.

I might add that I dreamt this dream the night after Miss M—— had been expecting Mr. W—— to call. He had not called, but a Mr. H—— had called instead, and when he rang the bell, we all thought it must be Mr. W——. As a matter of fact, neither Miss M—— or Mr. W—— speak or understand Italian, but I do. This seemed to make no difference in the dream.

When Mr. W—— called we were in the parlor of our apartment. The corridor, however, was not the corridor here, but one of a house I used to live in. The bedroom I escaped to was different again, and I do not seem to recognize it as one I have known.

As I remember it, Mr. W—— was in evening clothes.

File 126

VIOLIN LESSON DREAM

My dream was about a violin lesson. Mr. X—— was teaching my brother and me in my old home in Portsmouth, but in my dream the house belonged to Mr. and Mrs. X——, as Mrs. X—— was obliged to tidy all the things I had left about when I came in for my lesson. Our violins were in position and we were to play a Mozart sonata from the same stand; but before playing it, Mr. X—— played it himself, expecting us to write it down. My brother succeeded, but I failed. Afterward I saw the page open on the stand, and I had written the first few bars right, which consisted of the half notes (key of C), e, g, c, e, etc., played on the *e* string of the violin. Mr. X—— was very much put out at my not being able to continue; but all I could remember besides the few half notes were eighth

MUSICAL DREAMS CARRY A SORT OF SYLLOGISTIC PARALLEL CHARACTERISTIC OF THIS PARTICULAR DREAMER WHO ALSO FAVORS PROPHETIC TYPE

notes in the bars of the page, — all eighth notes and nothing else.

Then I woke up.

The day after I had this dream, we played (at Mr. X——'s suggestion) in a string quartette I belong to, one of the Beethovens, which begins in a similar way, in a different key and in whole notes instead of half, but the effect is about the same. I had not played the quartette nor thought of it since December. Mr. X—— is actually a very gentle, patient man, who never loses his temper whatever happens. He is the leader of two string quartettes of which I am a member.

We were in the large music rooms of my old home. We were in the back room, where the piano used to stand, and our violin stand was placed so we looked out into the front room, at the end of which, on the table, Mrs. X—— had tidily put all my things: coat, hat, violin case, etc., in separate piles. My gloves and a bundle or two were also on the pier table.

File 126

SINGING INVALID DREAM

My dream was about two persons in one. I dreamt I was very ill with a fever; and at my bedside was a man who combined the personalities of Dr. C——, my physician, and Mr. S——, conductor of the chorus of which I am a member. In the capacity of Dr. C——, he was trying to calm me. I was tossing with the fever. And as Mr. S——, he was making me sing; conducting not only me, but the rest of the chorus, who were in the sitting-room adjoining my bedroom.

On the morning of the 23rd of February, I woke up with an attack of bronchitis, and the doctor was sent for. My chief concern was that I would not be able to sing in the chorus rehea sals for a week or more, thus closely associating Dr. C—— and Mr. S—— in my mind. The dream came to me a week or two previous to the illness. The combined Mr. S—— and Dr. C—— is not distinct as to looks in my memory; it was more the personality that I remember.

File 126

A TRIP TO EUROPE DREAM

My dream was about a trip to Europe. I dreamt I was sailing with my friend, Miss R——, for Antwerp. In the confusion of landing, we became separated; whereupon another friend, Miss D——, appeared to me and said that since Miss R—— and I would surely find one another again she would not trouble to wait for her to come back. She then disappeared in the crowd. This was about noon; and I was very hungry, and beginning to feel quite lonely and lost.

At that moment, my physician (an old friend), Dr. C——, made his way to me through the crowd, expressing surprise at my being in Antwerp alone. I explained, and he suggested our having lunch together. We went up a long imposing flight of steps to the broad entrance of a hotel, and were ushered into a long, rather narrow, dining-room. Our table was next to one at which were seated a beautiful woman and her three lovely little girls. The girls had heavy, chestnut brown curls

ACCIDENT OF SAMPLING BRINGS TOGETHER TWO DREAMS OF MATURE WOMEN IN WHICH COIFFURES OF CHARACTERS OCCUPY A SPECIAL PROMINENCE

falling down their backs and about their pretty faces; they had no hats on. The mother's hair was also brown and wavy and very thick. All three girls were in a rather deep shade of blue linen, the little frocks being smocked at the neck and sleeves, and falling loose to the bottom. We were about to order lunch when I woke up. It was a foggy but warm summer day; green trees showed through the soft mist, near the landing.

This dream came to me when I was thinking of making a trip to Europe, and Miss R—— and I were to sail together. There was a possibility of Dr. C——'s being over there that summer. As a matter of fact, I did sail with Miss R——, and we no sooner landed in Liverpool than she left me to make a visit in the town, and I should have been alone except for a Dr. and Mrs. McA —— and a Dr. Y —— (whom I had met on the steamer), all of them friends of my physician, Dr. C——.

After visiting Miss R—— and her family in London, where we met after the few days of separation, I made another visit in Paris; and again I should have been alone except for a Dr. Z —— and his mother, who asked me to join them on a trip to Dalmatia. I was with them several weeks, in Italy instead of Dalmatia, owing to cholera in the vicinity of the latter country.

File 127

RECEPTION DREAM

I dreamed I was at a large party, and there was a person present whom I had hoped would be invited, although I was not sure it would be suitable. There were two other special people that I had in mind, too, in that dream. Their hair I noticed in the roomful of people; two with brown hair, and one with grey hair. They were fairly well dressed for an occasion. No particular dress.

One of the brown-haired women was the one who should have been invited. Yes, I did desire that she should be invited in fairness.

File 128

EMBARKING DREAM

I wanted to go to Europe, and began to pack my belongings in a very great haste. I believe I had about seven trunks. I hired a taxi and told the driver to use a speed of sixty miles an hour as otherwise I would be too late for the steamer.

When I arrived at the pier, I could not find my baggage. I looked and hurried around, calling down everyone, and I became more and more excited, for the steamer had left the dock already and there was only a small boat left which could take me to the steamer. I decided to leave this country without my clothes, and looked for the driver to pay him, but he was gone and I believed that my brother had paid him. I then took the small boat which took me to the steamer.

File 128

FOUR-FOLD DREAM (1ST DREAM)

A stranger (man) asked me to go abroad. Went on steamer. The stranger was then a girl. The

DREAM OF SCATTERBRAINED INDIVIDUAL CONTRASTS WITH POISED PHANTASY OF MATURE SCIENTIST

steamer began to rock terribly. She became seasick, and I became very attentive to her and then took sick myself. Here I woke up. Time of awakening 10:45.

OLD HOME DREAM (2ND DREAM)

Half an hour later the same evening, I dreamed I was in my old home in Germany, eating supper. *(Mother has been dead twelve years; Father for a year and a half, but I still have two brothers and one sister living in Germany).* Suddenly we had a little toy (musical clock) on the table. I stated that it was a cheap article, worth only 30c. My father and I got into an excited argument and he gave me a terrible beating. Here I woke.

DEATH-BED DREAM (3RD DREAM)

My father was in bed dying, and we all had been summoned around his bed. Suddenly the bell rang, and a young man came in whom we addressed as our brother-in-law *(I have no brother-in-law),* and he examined my father and told him he would live.

Then we were all in our parlor (home) and my brother and I wanted to go to the theatre. I asked my father for money and he gave me $12.00. We picked up two pretty girls. Later my father started a quarrel with me, saying that I did not give him my salary. He gave me such a beating that my nose began to bleed and here I woke up.

FAMILY QUARREL DREAM (4TH DREAM)

I came home toward evening, and my mother and sister were working hard. I told them not to do so, or else I would not come home any more. They told me to marry, and I got angry and left home. On the way (I believe I was in Central Park), several bandits held a pistol before my face and took everything I had. One compelled me to sign a check; I forget the sum. While they were dividing what they had stolen, I ran away and fell in the Ohio river at Cincinnati. I tried to swim, but my strength gave out and I was drowning. Here I woke.

File 133 March 8

FATHER AS TWO PERSONS

I dreamed I saw my father (who died in 1890) at some sort of public meeting, and the curious thing (which did not seem curious in the dream) was that there were two of him, differing slightly, somewhat as two photographs we have of him differ. He was rather unapproachable and distant in the dream, and I scarcely did more than watch him, — though without any strong emotions.

I have previously had dreams in which my father appeared, and in which I did not get to speak to him. In life, he was rather absorbed in his work and usually had little to say to us young ones, though he occasionally unbent. I do not recall having thought of him particularly recently; though the recent death of my mother, and the reading of letters telling of her funeral at our old home and burial beside my father, may have started trains of thought regarding my father which did not get carried out to their natural completion.

TWO DREAMS OF MATURE SCIENTIST NOTABLE FOR SUBROGATIONS INVOLVING REGULAR PATTERN AND EVEN DISTRIBUTION AS CATEGORIAL LINKAGES

File 133 **March 5**

SURVEYING IN SNOW DREAM

I seemed to be making paths with my feet through the snow, and by this means marking off a large field into narrow lanes (or perhaps squares), and it seemed that by so doing I was acquiring the field or somehow protecting it. There seemed to be haste in the matter, and many persons were looking on, as if it were a competition; and I was running as rapidly as possible. At one place the land was swampy, and I slid or stumbled through this as a ball player slides for third, getting myself wet but feeling rather proud about it, as if I had done something devoted and successful.

The scene of this dream was our old home (a parsonage which my father held as minister, and which we left on his death); but the dream was not connected at all with the one concerning my father, but occurred several days earlier.

File 133 **March 2**

HAY CUTTING DREAM

With my wife, I seemed to be cutting down with a sickle some weeds and poor grass along the edges of paths. We were leaving the cuttings to dry and meaning to use them for some purpose which I do not recall. This occurred on the lawn and field of some old friends of mine, by the name of Call, whom I haven't seen for many years.

While we were so engaged, men began mowing the grass with scythes, or else loading up the hay. It seems to me that both operations went on while we were there. At any rate, the loading occurred, and I remember thinking that they did not want what we had cut, because it was not good hay, and also because it was not yet dry. The men did, in fact, leave what we had cut. It occurred to me to turn our cutting (or else some of the hay, or both), and I looked for a hay fork and found one of rather peculiar, old-fashioned shape, with short handle, lying on the ground. With this I proceeded to turn some of the cut grass. My wife and some of the Calls were watching me.

At the end, it seems to me that I gathered up the weeds or hay with my fork, and pitched it up somewhere, probably upon the load of hay. The forkful, however, did not stay, but came falling down upon me; and, as it came, it seemed to be a lump of coal rather than a bundle of hay. My wife apparently participated in pitching up, and her forkful came down too, as a second lump of coal. The lumps seemed to be about our respective sizes, and to be falling on us respectively. I don't recall any feeling of terror at the impending disaster, nor any hurt. The dream apparently ended at this point.

There were two families by the name of Call who lived in large adjoining places in W—— where I lived from 1882 *to* 1887. *I knew the young people in both families, but those in one house better than the others, one of the girls being a classmate whom I used to "go with" for a few months. I knew her brother also, and saw him about fourteen years ago, when he was in the Harvard Medical School. This sister I probably have not seen since*

FISH DREAM IS STRIKING PARALLEL TO EARLIER PHANTASY OF ANOTHER MAN BUT NON-VITALITY OF FISH HERE FITS WITH CONTRASTED INTERPRETATION

about 1891. *There was an older boy in the other house, whom I often saw but did not know very well. I have heard of both families from time to time from my relatives who still live in the town.*

The scene of the dream was at one of these houses, without distinction as to which, and the Calls who were present (in the background) were also apparently simply generic Calls. In the dream there was a moment of doubt whether we were trespassing, but this doubt was quieted by the action of the men in leaving our cuttings.

The grass lay in rows as if mowed by a scythe, and I believe that I turned some of these rows with the fork, and felt that I was being helpful. When I found the fork on the ground, and observed its shape, I said to myself that it was a real old-timer, and recollected how long the families had been living there.

File 140 February

MARBLE FISH DREAM

I seemed to be fishing at one time in a cistern, at another in something like a swimming pool or Roman bath. I believe the fishing in the Roman bath preceded that in the cistern. I do not recall the scene fully, but it seemed to be an interior of stone; and I do not recall exactly where the water was. The cistern was out of doors, and at first somewhat resembled the one at home, with a cement rim; but later it seemed to have a sod rim, and to be like some large natural underground reservoir. The cistern was visible only as a black opening a few feet across with water to the brim, giving the impression that it might extend underground to a considerable distance. It seemed to be full of large fish, which could be seen coming to the surface. The fish seen were of several kinds, but all large, some two feet long, and all swimming rapidly back and forth at the opening, as if eager for food.

I dropped in an unbaited hook (apparently had trouble in baiting it, and was in too much of a hurry) and immediately had a bite and pulled out a large fish, but rather peculiar looking, so that it seemed doubtful whether it would be good to eat. I caught, with hook and line, a white fish with white eyes or lids, resembling the eyes of a marble statue. The fish was evidently blind, and did not seem to be in good condition, so that my wife, when I showed it to her, said it was not fit to eat. It seemed to be injured and partly torn away on the under side just behind the gills — as if it were in a state of decomposition. Yet it was alive. It was 18 inches long. I recall pulling it on my line over the wet stone floor of the bath, the fish flapping rather feebly. It had a bull head, and large eyes. The whole fish was colored like a marble statue I had some difficulty in removing this fish from the hook, in order to have a try at some very fine large fish which could be seen swimming in the water. The hook was peculiar in having a second arm attached to a branch of the line, much like a string and spring trap. I didn't understand it very well, and couldn't manage it so as to get the fish off quickly. Several other men (unknown) were also **fishing** through the hole.

MARRIED WOMAN'S DREAM SHOWS TIME INVERSION AND SUBROGATES ANIMALS FOR MEN—DREAMS OF ELDERLY HYPOCHONDRIAC OFFER DEBATABLE MEANINGS

My wife was quite strong in asserting that the fish was bad and that she would not eat of it. But I urged that as it was alive — though perhaps a little feeble — it would be safe to eat. I ate a little but found it tasted most abominable, and I was afraid of being poisoned. Rinsed my mouth and had much difficulty in getting rid of the repulsive taste. The taste was extremely strong and rotten, as if a concentrated essence of rottenness had been taken in liquid form.

File 150

ANNOYING DOG DREAM

I was somewhere with my brother, W——. I don't know what we were doing, but his dog was with us; not just *a* dog but a real dog, a dog which he had when he was a boy. The dog was somewhat obtrusive and his presence annoyed me very much, but I tolerated him because my brother liked him. I was not afraid of him but was somewhat repelled. I insisted that my brother should keep between me and the dog, but when the dog nosed around and touched my hand, I permitted it. There was another dog, much nicer. My brother and I were looking out of the window when we saw a magnificent bolt of chain-lightning; this was followed by a loud clap of thunder and I woke. The thunder was real.

File 155 May 25

GROUNDED LAUNCH DREAM

Last night I was in Florida and visited my winter home at Rockmount. I don't know how I got there, or how I got back. My launch was lying across the road (the road runs close to the Indian River), and teams had to drive up on my lawn to get by the launch. I started to walk down the road to ask my manager how the launch came to be across the road; but after walking a short distance, I gave it up as being too long a walk. Then I seemed to meet my wife and one of my daughters. I said to them, "I want to stay here two or three days. Do you think we could fix the house so we could sleep there?"

The launch was not my old launch, but seemed to be new and much larger, and her rudder and keel were broken. I was very anxious to see if my roses were in bloom, but did not see them.

Ate some crab salad for supper, last night.

File 155 May 26

SEASHORE DREAM

Last night I was at the seashore; the sky was overcast with angry clouds, and as I looked at them, I saw a house up in the air, carried along by a high wind. I thought a tornado was coming, and went back to where there was a sort of culvert under a trolley road, which I thought would make me a good shelter from the wind. I was not at all frightened or worried.

Then I seemed to be digging clams. I had very good luck, and caught some of the largest I ever saw. Then I seemed to be in a shallow pit, and a hole in the ground some distance away made an underground passage to the pit I was try-

ing to close the hole by putting a door against it and bracing the door with two boards, which seemed to be too short; and they gave me a great deal of trouble trying to make them hold the door closed. There was a wolf in the hole, and dogs were trying to get him while I kept one end closed.

File 155 **May 28**

WATCH DREAM

I left my watch with a jeweler (who seemed to be a friend) to have it put in order. When I called for it, he was playing cards with a man and paid little attention to me; but finally he said he thought some one had taken it, as he could not find it, but he gave me a watch to carry for a while. Afterwards I thought he had given me a lot of dirt and trash between the leaves of a newspaper. I went back to his office quite mad about it; but when I got into his outer office, I felt in my pocket and found he had given me an old watch to carry. Then I felt ashamed and did not want him to know I was there, so I hurried out and started down two flights of stairs. I was in such a hurry to get out of the building, that I jumped down some of the stairway, putting out my heel to catch a step now and then and check my progress.

SICK BROTHER DREAM

One of my brothers has complained of insomnia lately, and I dreamt that I met him and asked him if he was sleeping any better. He said not; and he thought he was smoking too much. I said, "Well, cut it down. If you don't get better, you will get worse. It will soon be dull season, and you can arrange to take a good long vacation and build up again."

File 155 **May 29**

BROWN BIRDS DREAM.

I dreamt last night that I was talking business with my brother. He told me he had bought $2,000 worth of brown birds, and he was very much worried, for he seemed to realize that he was badly stuck. I told him he was certainly a fool to put so much money into 30,000 birds, and all of them brown. I said our forelady might get him out of it by telephoning that we could not use them, and they must not send them to us.

File 155 **May 30**

SECOND SEASHORE DREAM

Was clamming again, last night, but had poor luck. I thought I was after a very large clam, and I went down and down for him until I had made a very deep hole in the sand; but instead of a clam hole, it turned out to be a water hole.

File 159

CANAL DREAM

I thought I was near a canal where there was some sand, and I was driving along in a governess' cart with some children. And between the shafts there was a dog instead of a donkey, pulling the cart.

Then the scene seemed to change and the river was full of dead dogs, just crowded with them. They were

THREE DREAMS OF YOUNG MAN, YOUNG WOMAN, AND MATRON PRESENT ARMED CONFLICT AS SUBROGATIONS FOR CONFLICTS INVOLVING SEX FEELING

big dogs and puppies, puppies were rolled up in half-balls.

File 160

GERMAN OFFICERS DUEL DREAM

I was sitting in an amphitheatre looking down upon a lecturer's platform and desk. In the space in front there appeared to be two men in uniform (I think they were German artillerymen), who were engaged in a fight. It seemed to be a fight to the death. I believe they were fighting with knives. Then one of them was shot and I covered my face with my hands.

File 165

SOCIALIST DREAM

My dream was about socialism. There was war in the country, and I had been given the secrets of the anti-socialists' party, and the socialists knew it. . . . The secrets were on a piece of paper, drawn in the shape of three men's heads. The heads were so placed that the eyes and ears represented spots where there was ammunition hidden in a park. There was distinctly impressed upon me the face of a Jew, similar to that one in Life —"Working Dey and Knight." That is all of the dream. I then lost the paper; it fell into the hands of the Socialists, and I was arrested.

What worries me is the fact that I have dreamed this dream three times, and each time there was the same secret written in the form of three heads on paper. The paper looked identical each time, and in each dream I lost the paper; it fell into the hands of the Socialists, and I was arrested. That is all for the dream.

File 171 May, 1915

INNOCENT BYSTANDER DREAM

I seemed to be in an old German, town, where the buildings had highly ornamented façades and driveways under the first story, leading into courts or other streets. I was standing in the entrance to a store at the side of one of these driveways, looking up at a man who was talking very loudly and excitedly, from a window higher up in the same building. He was evidently a religious fanatic of some sort, and was excoriating two women who were standing in an open space in front of the house. They were waiting while their car was being repaired and their offence seemed to be that they were dressed in too extreme a fashion for the street, having on very low cut gowns. As the man's excitement grew more intense, he finally came down into the street and the women, becoming alarmed, called for their escort for protection.

I became rather frightened and went into the store, but very soon a man came dashing by me and as I turned to look, I saw the barrel of a revolver shining at one side of the glass in the door. The next moment I heard the report as it went off, and felt an instant sharp pain in my side. I said, "Oh, I have been shot, just like the girl I read about the other day, with a bullet intended for someone else." It seemed strange to me that I felt no weakness, but my dream ended without further events.

DEFINITELY SEXUAL DREAM OF MATRON CONTRASTS WITH DREAM OF BEREAVED MOTHER ESSENTIALLY DOMINATED BY MATERNAL CONSIDERATIONS

File 171 Feb. 1915

FAITHLESS PARTNER DREAM

The scene of my dream was a large ballroom with broad steps at one end of the room. On the top step a young and beautiful girl was standing and I seemed to know that she was the "belle" of the ball. The first dance was in progress and the girl looked troubled as her partner failed to appear. Among the spectators on a balcony at one side of the room, a splendid young man was sitting with his mother, and as he realized the girl's distress he decided to come to the rescue. He went to her and asked for the dance, and when she explained the situation he asked the name of her partner and promised to find out the reason for his non-appearance.

After the dance he went in search of the man and found him lounging in another room. He asked very pointedly for an explanation, but the only answer he received was that he didn't happen to feel like dancing, so he simply didn't do it and that was all. He then told the man that the answer was no explanation and that he would consider it necessary to demand satisfaction.

The time for the duel was set at 12 o'clock the same night, and I now seemed to follow the man who had been called out. He went directly to his rooms and sat down in a chair facing a chiffonier upon which was standing a row of at least seven clocks, all pointing to 11.30 o'clock. My dream faded away while he was sitting there waiting for the time to pass, and the episode did not reach any conclusion.

File 202

LUNCHLESS SUNDAY DREAM

To accommodate a neighbor I was boarding a man and three women teachers, while she was moving and settling in her new home. I was preparing supper on Sunday evening when I suddenly remembered I had not given them any lunch. I felt bad about it, and excused it by saying we did not have lunch on Sunday. The dream changed and I was in Fernald's Store. Mr. C—— (a high school teacher) was there. I was getting three pair of black gloves or mittens and two or three small black articles.

I saw a girl driving past and a pony or colt trotting with her. My brother-in-law came in with his sister. We left her and walked off to a new house and hid from her. I talked to him against remaining a bachelor.

The neighbor was really moving. The girl driving was about sixteen years of age and was dressed in brown. Horse was small also. Carriage and whole team was brown; horse and colt or pony had recently been clipped.

My brother-in-law is my husband's sister's husband, and happily married. He and I remained at the turn of one pair of stairs until we heard his sister coming up another way.